

March 1954

house+home

For complete contents, see p. 99

Frank Lloyd Wright

A dramatic lesson in tight planning: how big can a tiny house be? (below and p. 98)

Air-conditioning progress

24 pages of exclusive field reports (p. 106)

1. How to make air conditioning sell houses
2. Why air-conditioning costs are cheaper than you think
3. How to get more cooling for less money
4. How to design cooler houses

Round Table report

Why do FHA and VA valuations discriminate against better quality and better design? What changes should be made in these appraisal policies and practices? (p. 140)

Panel construction

Every lumber dealer can be a prefabber; builders and architects can use parts instead of pieces (p. 152)



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PLAY SAFE. Install a NuTone Heat-A-Life IN THE CEILING...

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The new housing bill

► **Congress gets legislation giving the President sweeping control over VA and FHA mortgage terms and interest**

► **Higher FHA loan limits promise boost in apartment building. Fanny May changes and public housing may stir fight**

The administration housing bill, introduced in Congress Feb. 12, would accomplish just about what President Eisenhower had asked in his housing message: put more responsibility on local communities for solving slum problems but give the President greatly expanded powers over FHA and VA interest rates, maturities, down payments, fees, charges and other terms.

The 107-page measure, sponsored by the chairmen of the Senate and House banking committees—Sen. Homer E. Capehart (R, Ind.) and Rep. Jesse P. Wolcott (R, Mich.)—constituted the biggest overhaul in 20 years for federal aids to housing. As NAHB promptly noted, such revisions were “long overdue.”

Most of the changes (see table, p. 35) looked sound to the industry and to politicians of both parties alike. There would be a fight over public housing (Wolcott balked at putting it in his measure). There might well be rumblings over details of the major shake-up for Federal National Mortgage Assn. But it was still anybody's guess whether a storm would develop over what seemed to some experts a really questionable feature of the legislation: in giving the President such sweeping powers over FHA and VA loans, with the laudable aim of helping to even off housing's boom-and-bust tendencies, the bill would plunge nearly half of the nation's new housing under a one-man-controlled economy. Should a President, in peacetime, have such clearly defined power over a \$12 billion industry?

6% interest ceiling. Briefly, the housing bill would let the President set interest on FHAs and VAs at any level, subject to a top ceiling of 6% and a limit of not more than 2½% above the going rate on long-term government bonds. He could increase or decrease maturities, subject to a maximum of 30 years (40 years for a new FHA Sec. 221 for low-cost housing to reduce the need for public housing). He could raise and lower down payments as he thought the state of the economy made wise and regulate all FHA and VA fees and charges.

Whose thinking lay behind this control philosophy remained a puzzle. Both the Treasury and Federal Reserve championed the idea, but each called the other the ring-leader. The idea recalled the views of Truman's economic council under Leon Keyserling, a staunch believer in vesting wide economic powers in federal hands. Keyserling contended that unless an agency like FHA had some reserve stimulative power it would not be able to help the housing market if and when help was needed.

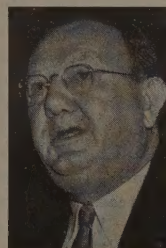
Economist Walter Hoadley Jr. of Armstrong Cork Co. touched on the point while testifying last month before the joint Congressional committee on the economic report. Said he: “It must be recognized that efforts of the federal government to help stabilize

Miami Herald



WOLCOTT

UP



CAPEHART

the national economy by periodic and fairly abrupt policy changes to curtail or stimulate homebuilding have had highly disrupting influences upon the industry. To the fullest extent possible, policy decisions should be to encourage longer-range market needs and potentialities of new and fix-up homebuilding rather than to weaken forward planning by frequent pronounced shifts affecting the environment within which the industry endeavors to operate.”

Easier terms hinted. Although the bill would not automatically give homebuilders the easier mortgage terms they have championed so long and loud, NAHB spokesmen were unfazed. Reason: administration spokesmen let out word that if the bill passed, Eisenhower would act at once to ease FHA

down payments. However, it was fairly clear that the President at first would not cut them as much as he could.

On interest rates, administration men passed word around that no immediate changes were contemplated despite the flexibility written into the bill.

Roadblock for public housing. Long and sometimes heated arguments among administration leaders preceded introduction of the 1954 housing bill. The climax was a White House breakfast where the President talked to Rep. Wolcott and Rep. John Phillips (R, Calif.), chairman of the House appropriations subcommittee that must act on public housing. Wolcott had balked at including in his bill Eisenhower's proposal for 35,000 public housing units a year for four years. His position: he had argued often that public housing was the “hallmark of Socialism;” he could not in good conscience sponsor a bill containing public housing and argue that it was any sweeter because it was growing on a Republican vine. Moreover, Wolcott pointed out that there was ample authority in the law already to build the 35,000 units Eisenhower wanted “until alternative programs prove more effective.” The real decision rested, as it always has, with appropriations.

After breakfast, Wolcott announced that the President “was agreed” to his approach. He added: “What we have decided in no way prejudices the Eisenhower public housing recommendations.” Would Wolcott vote for 35,000 public housing units? He called himself “noncommittal.” Phillips refused to predict what his subcommittee would do. Last year, it recommended no public housing starts at all.

Democratic jibes. Prompt Democratic sniping indicated there would be political tears over omission of public housing from the housing bill. Snorted Sen. Russell B. Long (D, La.): “The legislation has made it clear that the administration does not approve of public housing accomplishments to date and wants to end the program soon. It is just an indication that they are preparing to discontinue it.”

Whatever the eventual fate of public housing, its omission from the bill could well delay its passage. For one thing, there were hints that the Senate banking committee might restore provision for 35,000 public housing units in reporting the bill out for floor action if it thought the House appropriations committee was dragging its heels on the subject. Such a course would lead to a long wrangle when the House and Senate conference committee meets to harmonize provisions of the House and Senate housing bills. Wolcott himself remarked that the bill would probably not become law soon enough to be much help this year.

Blended Fanny May. In proposing to reshuffle the Federal National Mortgage Assn. (Fanny May) into a tripronged opera-

Cities would need rehabilitation programs to qualify for federal redevelopment aid

tion (see p. 35 for details), the housing bill apparently aimed at compromise over bitter industry factionalism that flared in the President's housing policy committee. The committee had suggested putting Fanny May under an expanded Home Loan Bank Board and requiring people who sold mortgages to it to hold stock amounting to 4% of their mortgage balances. This, charged homebuilders, was a savings and loan device to make the secondary market so costly it would not work. Savings and loan leaders were just as mad over the committee's idea of putting the Home Loan Bank Board under more HHFA control, promised a floor fight in Congress to stop it if necessary.

The housing bill steered around both objections. The Home Loan Bank system apparently would be left independent. The stock-holding requirement for the part of Fanny May intended to serve the normal secondary market was cut to 3% (NAHB insisted this was still too much). A special-aid Fanny May program would be set up to pump Treasury money into new FHA mortgage programs (notably the 40 year, \$200-down loans which were the Republican white hope for ending public housing). But this coinage of mortgages would not be free and unlimited. It would be confined to programs where the President found the building industry and national welfare required it, and further limited to a total liability of \$700 million.

Proposed authority to let Fanny May support the entire mortgage market to stave off economic collapse was largely meaningless. Fanny May would not have enough money. Actually, it would have to come back to Congress for more borrowing authority if the mortgage market slipped into a real tailspin.

How much would Fanny May cost? But conditions proposed for the new FNMA's "normal secondary market" operations suggested the facility still would be costly for builders to use. This was intentional. Republican leaders did not want FNMA to continue as a dumping ground for unwanted mortgage paper.

A builder who wants to sell a mortgage to the "normal" FNMA would have to begin by contributing 3% of the mortgage to FNMA capital. Then FNMA could charge him a discount of, say, 1% and a fee of ½% for the privilege of doing business with it. The housing bill put no limit on fees and charges FNMA can collect to cover operating costs.

When could a builder get the money back? Some banking committee technicians who helped write the legislation believed that with the best breaks, he might start collecting after seven years.

The new "normal" FNMA would begin with a capitalization derived from capital and surplus in the old FNMA—roughly \$70

million. It could expand this ten times by selling debentures—to \$770 million. It could invest the entire sum in mortgages, exacting a 3% contribution. The process would bring its working funds as high as \$1 billion.

Would Fanny May have trouble selling its nonguaranteed debentures on the open market? No one really knew. But from 1938 to 1943, FNMA had successfully floated \$426 million of nonguaranteed and taxable debentures. The supposition was the same thing could be done again. Anyway, the housing bill would let the Treasury buy up to \$500 million of the debentures immediately, plus another \$500 million out of funds paid back to the Treasury from liquidation of Fanny May's present portfolio.

That is where builders and lenders who avail themselves of the new FNMA "normal" market would come in. After the government capital has been retired, their nonrefundable convertible certificates could be exchanged for FNMA capital stock. But the housing bill stipulated that FNMA cannot repay the government \$70 million stock until it has accumulated \$100 million. That would take a long, long time.

Open-end mortgages. Other noteworthy phases of the legislation:

► FHA would get authority to write open-end mortgages (VA already has). Inclusion of this provision in the bill climaxed a behind-the-scenes struggle to overcome technical objections thrown up by a coterie of old-guard FHA officials. Open-ending should give a big boost to the home fix-up market on which many a housing expert is relying to compensate for the probable drop in new housing. Higher limits and longer maturities for FHA Title I repair loans will give modernization a parallel shot in the arm. In effect, the new five-year, 32-day amortization on one- to four-family homes will cut the interest rate from 9.58 to 9.05%.

► FHA's four-year-old Title I, Sec. 8 program for low-cost (under \$6,000) homes could be killed—ironically enough just as it was beginning to develop a good head of steam (p. 43). FHA says it will retain the lower construction standards of Sec. 8 for Title II mortgages of \$6,000 or less.

► Federal aid for redevelopment would be broadened to embrace the entire concept of urban renewal, specifically including rehabilitation and other housing code enforcement work. Indeed, this was the most basic change of direction in the legislation. But the idea had been so well sold to public and private housers alike that opposition was dwindling rapidly. Significantly, the bill would make urban renewal grants (but not preliminary planning advances) contingent on HHFA approval of "workable" plans by local communities both to attack existing

slums and to prevent new slums.

To harness private building to the slum job, the bill would create a new FHA Sec. 220 rehabilitation loan available only in FHA-approved conservation or rehabilitation areas. Allowable limits: 90% of value after improvements, and generally with same maturities, interest and mortgage per room limits as other Title II loans (see p. 35).

► In-city construction of high-rise apartments would get a tremendous boost if the President exercises the power the bill would give him to raise Sec. 207 multifamily rental housing mortgages from \$2,000 to \$2,400 per room for elevator structures, and power to raise mortgages on Sec. 213 co-ops on a similar scale. Already, the prospect of a new boom in apartment construction had prompted renewed land speculation in Manhattan.

► Administration leaders, in proposing the eye-catching 40-year, \$200-down FHA low-cost housing program (Sec. 221), took pains to see that there would be mortgage money to make it work. The program would be eligible for special FNMA aid with Treasury funds in case private lenders shun it as many a mortgage expert thinks probable. In an effort to make the loans more palatable to private lenders, the housing bill adopted a suggestion of FHA Commissioner Guy Hollyday by providing that Sec. 221 mortgages can be turned in after 20 years for ten-year FHA debentures, at the lender's option. The two-year trial basis for Sec. 221, suggested by the President's housing policy committee, was dropped. The program would run until Congress repeals it.

Direct VA loans dropped. Conspicuously omitted from the administration's housing plans was any provision to continue direct VA loans. VA's authority to make them expires June 30. A rash of bills extending the program had been introduced in Congress, but whether GOP leaders would keep them bottled up in committee remained to be seen. Latest bill was one by Sen. John J. Sparkman (D, Ala.) which would double VA's present \$25-million-per-quarter lending authority.

Missing from the housing bill, too, was any provision for farm housing aid. At mid-month, this drew tart comment from Vice President B. E. Grantham of the National Institute of Farm Brokers (a NAREB affiliate). Said he: "The slums of rural America are in just as much need of improvement as those in the city."

Those plugging for prompt passage of the Housing Bill of 1954 thanked their stars for one break. The reorganization of HHFA recommended by the presidential committee would go to Congress later as a presidential reorganization plan. This would prevent further delaying disputes over how much power should be concentrated in HHFA hands. At the moment, since Congress cannot amend a reorganization plan, the housing industry was waging a behind-the-scenes battle over details of the reshuffling.

Housing bill details

as introduced in Congress Feb. 12 by Senator Capehart and Representative Wolcott

Subject	Provision
FHA Title I repair loans	For 1-family dwellings—raises loan ceiling from \$2,500 to \$3,000, boosts pay-off term from 3 years, 32 days to 5 years, 32 days. For multifamily dwellings—changes maximum loan from \$10,000 to \$1,500 per unit or \$10,000, whichever is greater, boosts pay-off term from 7 years, 32 days to 10 years, 32 days.
FHA Title II	Gives President power to boost mortgage ceiling on 1- and 2-family homes from \$16,000 to \$20,000, to boost mortgage ceiling of 3-family homes from \$20,500 to \$27,500, and to boost ceiling for 4-family homes from \$25,000 to \$35,000. Gives President permissive power to relax down payments as far as 5% down on first \$8,000 of value and 25% of excess for all sections, compared with varying but stiffer current requirements (see table, next page).
Old houses	Make existing 1- to 4-family houses eligible for same mortgage terms as new housing.
Amortization	Gives President power to raise pay-off term on all Title II loans to 30 years, instead of present 20 to 30 years.
High-rise apartments	Removes \$10,000 mortgage limit per family unit for Sec. 207 apartments with 4 or more rooms and gives President power to raise mortgage ceiling for elevator-structures from \$2,000 to \$2,400 per room and from \$7,200 to \$7,500 for family units of less than 4 rooms.
FHA co-ops	Permits President to raise maximum mortgage from \$1,800 to \$2,375 per room if 65% of cooperators are veterans (\$2,250 if less than 65% are veterans), with additional boost to \$2,850 per room for elevator-structures (\$2,700 for elevator-structures with less than 65% veteran cooperators). Raises maximum loan for cooperatives from \$5 million to \$25 million if mortgagor is regulated or supervised under law on rents, charges and methods of operation.
Rehabilitation loans (Sec. 220)	Authorizes a new FHA Sec. 220 to insure mortgages on either old or new dwellings in designated urban renewal areas where HHFA has approved local plans for slum prevention and redevelopment. Mortgage amortization limits on 1- to 4-family units would be same as for Sec. 203 and 207 (for sales and rental housing, respectively) unless President authorizes higher ceilings under permissive Title II authority. For dwellings of more than 4-family units, authorizes \$35,000 loans plus \$7,000 extra per unit on basis of 90% loans with maximum of \$2,250 per room (\$2,700 for elevator structures). Gives FHA right to regulate rents, sales, charges, capital structure, rate of return and methods of operation of mortgagors.
40-year FHA low-cost housing	Authorizes a new FHA Sec. 221 for 40-year, 100% loans up to \$7,000 to owner-occupants on new or existing homes (\$200 cash down required for closing costs). Operative builders would get 40-year 85% loans to aid sales to owner-occupants under purchase contracts or lease options. Sec. 221 would apply only in communities which ask for it and meet HHFA eligibility requirements. Slum fix-up displacees would have occupancy preference but sale to others is not flatly prohibited. Authorizes 40-year, 100% loans up to \$7,000 a unit for dwellings of more than 10-family units where mortgagor is non-profit organization, public or private, and regulated by federal or state government on rents and charges. Permits lenders to turn in defaulted mortgages after 20 years for 10-year FHA debentures at going interest rate when debentures are issued.
Open-end mortgages	Authorizes FHA to write open-end mortgages on 1 to 4-family houses. Lets FHA commissioner set up fees in lieu of insurance premiums. Exempts open-end advances from statutory ceilings on FHA insurance authority.
Military and defense housing	Extends Wherry Act housing (FHA Title VIII) to July 1, '55. Lets defense housing (FHA Title IX) die at expiration July 1, '54.
Interest rates and terms	Substitutes flexible interest on FHA and VA loans in place of rigid ceiling set by Congress (5% for FHA, 4½% for VA). Method: empowers President to set interest ceilings on FHA and VA loans at different levels for different classes of mortgages, but subject to ceiling of

2½% above average market yields on federal bonds with 15 years or more maturity.

Gives President power to set limits on FHA and VA fees and charges.

Empowers President to set maturities and raise minimum down payments on FHA and VA loans and dollar ceiling on FHA loans at any point below Congressional authorizations.

Repeals widely condemned Sec. 504 of Housing Act of 1950, which attempted to prohibit passing discounts on FHA and VA loans on to purchaser of house.

Federal National Mortgage Assn.

Reincorporates FNMA as constituent agency of HHFA, with HHFA Administrator as board chairman. Authorizes Fanny May to buy FHA and VA mortgages up to \$12,500 per family unit. Earmarks present Fanny May capital and surplus (\$70 million) to capitalize new Fanny May, which has three separate functions, with separate accountability: 1) Someday-private secondary mortgage market with sellers required to make capital contributions equal to 3% of mortgages sold to FNMA. When initial \$70 million Treasury stock is retired with these funds, HHFA would propose legislation shifting this part of FNMA to private ownership and control. Meanwhile, FNMA could issue nonguaranteed obligations up to ten times its capital and surplus and the Treasury could buy up to \$500 million worth, plus an amount equal to reduction in FNMA present portfolio up to \$1 billion. FNMA could make one-for-one contracts, but otherwise no advance commitments. 2) Treasury-financed aid to new mortgage programs (e.g. FHA Sec. 220 and 221) as directed by the President, or broad support for all mortgages to fight a depression. President could authorize up to \$200 million in purchases and advance commitments, plus up to another \$100 million for 20% participation in trial-plan mortgages. The 20% participation would include a FNMA commitment to buy the other 80% if a mortgage reaches foreclosure, thus putting a \$500 million liability ceiling on participations. Initially, \$300 million of FNMA's present authorization would be earmarked for special aid. 3) Liquidation of existing FNMA portfolio by selling mortgages, and by selling nonguaranteed 5-year obligations to the public secured by the mortgage portfolio under liquidation. Interest rates would be set by FNMA with Treasury approval.

Slum clearance and urban renewal

Broadens Title I redevelopment of the Housing Act of 1949 to include not only slum clearance but slum prevention. Bars federal aid to communities until they present "workable" official plans to attack existing slums and prevent growth of new ones. Authorizes creation of urban renewal service in HHFA to aid and guide rehabilitation and slum clearance work. Authorizes \$5 million in grants to localities to develop, test and report on better methods of preventing or ending slums. Repeals requirement that blighted commercial or industrial areas be redeveloped primarily for housing, but bars federal grants for projects "which consist of open land." Permits redevelopment grants to include rehabilitation work or cost of streets, utilities, parks, playgrounds and similar improvements (which need not be in a slum clearance area) to carry out an approved urban renewal plan.

Public housing

Extends occupancy preference, now limited to families displaced by public housing and redevelopment projects, to include displacees from other public improvements including code enforcement, highways, demolitions.

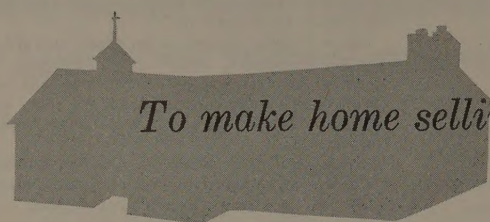
Public works planning

Authorizes a \$5 million HHFA kitty for 50% grants to state, metropolitan and regional agencies for regional planning ("including land use studies, urban renewal plans, technical services . . . but excluding specific public works"). Authorizes 50% grants from same fund to state agencies to help cities under 25,000 population with urban planning.

Authorizes \$10 million to resume defunct program of interest-free planning advances to local and state bodies for public works plans, repayable when construction begins. Purpose: to encourage a depression backlog of job-making construction projects.

Home Loan Bank system

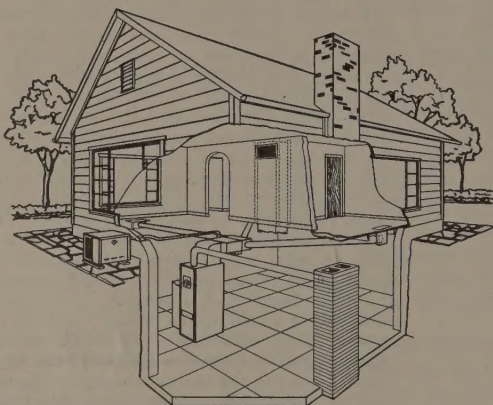
Raises maximum loan a federal savings and loan association can make from \$20,000 (set in 1933) to \$35,000.



To make home selling easier...

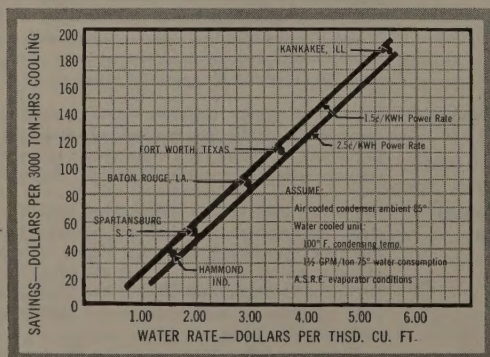
BUILD IN CHRYSLER AIRTEMP

Air-Cooled Year 'Round Air Conditioning



For air conditioning this 1600 square foot house, the Chrysler Airtemp air-cooled condensing unit is on outside. Operating cost for 1953 cooling season—\$48. In nearby house of similar area, water-cooled air conditioning cost \$72 to operate for same period. Inexpensive water rate held difference down in this case. Also, cost of maintenance of water-cooled unit was not considered!

Chart below, based on average 3000 ton-hour load (8 hours continuous operation for 125 days), shows how savings increase for operation of air-cooled air conditioning over water-cooled in proportion to local water rates.



COSTS UP TO \$185 LESS* TO OPERATE PER COOLING SEASON...

Builders and their home buyers have welcomed it because it operates without water—requires no plumbing—costs less to install. And now you can build in Chrysler Airtemp Air-Cooled Air Conditioning to give your new homes the dramatic sales appeal of Year 'Round Air Conditioning—with assurance to the buyer that it should cost him *substantially less* to operate than conventional air conditioning utilizing city water.

*Cost of cooling for a season may run as much as \$185 less than with water-cooled equipment (see chart at lower left). Depending on local water and power rates and ton-hours of cooling used in a home, this difference may be less—or even greater. From thousands of installations in homes in every section of the country, Chrysler Airtemp has accumulated data establishing the operating economy of its Air-Cooled Air Conditioning—the system which also gives the home owner complete protection against water shortages in hot weather.

Your local Chrysler Airtemp Dealer installs both Air-Cooled and Water-Cooled types of air conditioning—you can trust his recommendations! And whichever type you choose, you can depend on the Chrysler Airtemp name to give your prospects the utmost confidence in your houses!

CHRYSLER AIRTEMP

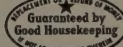
Comfort Zone



**HEATING • AIR CONDITIONING
FOR HOMES, CARS, BUSINESS, INDUSTRY**
Airtemp Division, Chrysler Corporation, Dayton 1, Ohio

Airtemp Division, Chrysler Corporation
P.O. Box 1037, Dayton 1, Ohio

HEH-3-54



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Address _____ Phone _____

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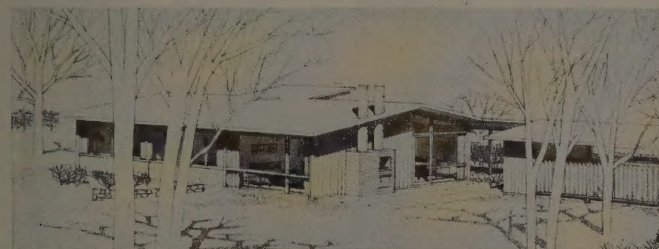
THE TRULY MODERN HOME MUST BE AIR CONDITIONED

Research village displays tomorrow's house design

A foretaste of things to come: six low-cost dwellings of widely differing design—but possessed of a similar down-to-dinner practicality—on a plot of woodland 35 mi. from Chicago in Barrington, Ill. This latest in “research villages” was conceived by the US Gypsum Co. (with asked-for advisory aid from NAHB and AIA) and executed by six top-flight architects. Participants called the scheme not only “desirable” but “long overdue.”

The six architects present a cross-section of top thinking in the field. Their plans revealed some basic thinking for the future: 1) the most important factor in small lot design is utilization of outdoor space; 2) the most important challenge indoors is to create a second living room; 3) promising opportunities for indoor planning have been brought about by FHA's approval of the inside bath; 4) the most interesting structural innovation is support of the roof by other means than old-fashioned walls.

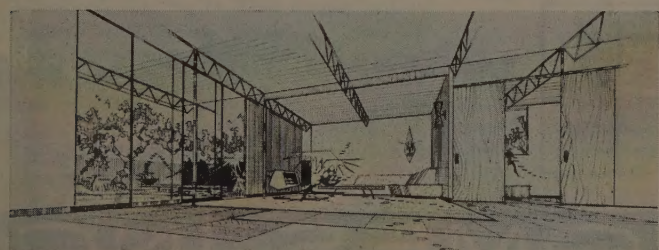
From 40 recommended architects the committee in charge picked Harris Armstrong, Kirkwood, Mo.; Gilbert H. Coddington, Columbus, Ohio; O'Neil Ford, San Antonio; A. Quincy Jones Jr., Los Angeles; Francis D. Lethbridge, Washington; Hugh Stubbins Jr., Lexington, Mass. Builder “teammates” assigned to them (to advise on the practical aspects) were, respectively, Don Drummond, Kansas City; Alex Simms, Dayton; Frank Robertson, San Antonio; Joe Eichler, Palo Alto, Calif.; Luria Brothers, Arlington, Va.; Leonard Frank, Hempstead, N.Y. The Maxon Construction Co. of Barrington is slated to begin work on the six homes early in the spring.



LETHBRIDGE-LURIA house uses the master bedroom as a buffer between living room and children's sleeping quarters, has interior baths. Mechanical core of the building is placed to permit convenient supervision of the home's major play areas from the kitchen.



O'NEIL FORD AND BUILDER ROBERTSON used a similar system for baths and utilities in their four-bedroom, lift-slab home (above), provided two dens, ample dining and living space in a little over 1,600 sq. ft. Interior of the **JONES-EICHLER** dwelling (below) shows open-web steel joists. Post-and-beam skeleton construction is expressed in light, graceful exterior (below right).

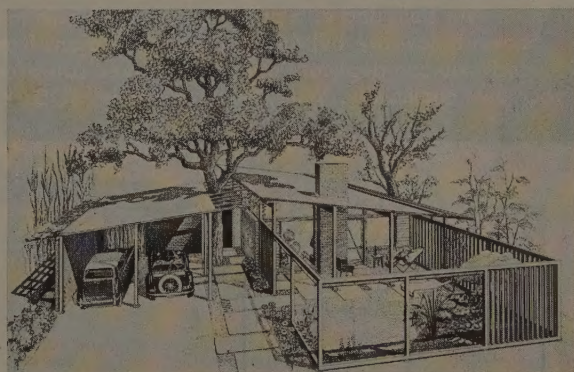


STUBBINS-FRANK house shows what split-level design can do if executed correctly. Kitchen and dining room are $3\frac{1}{2}'$ below main level, bedrooms and baths $3\frac{1}{2}'$ above. Stubbins: “Our objective was to get the greatest amount of floor area using the least volume.”



CODDINGTON AND SIMMS also did a split-level job, got an extra family room out of under-bedroom space (as did Stubbins). Simms noted privacy is one reason for future split-level popularity: “Teen-agers . . . want a place of their own in which to entertain.”

Photos: Hedrich-Blessing

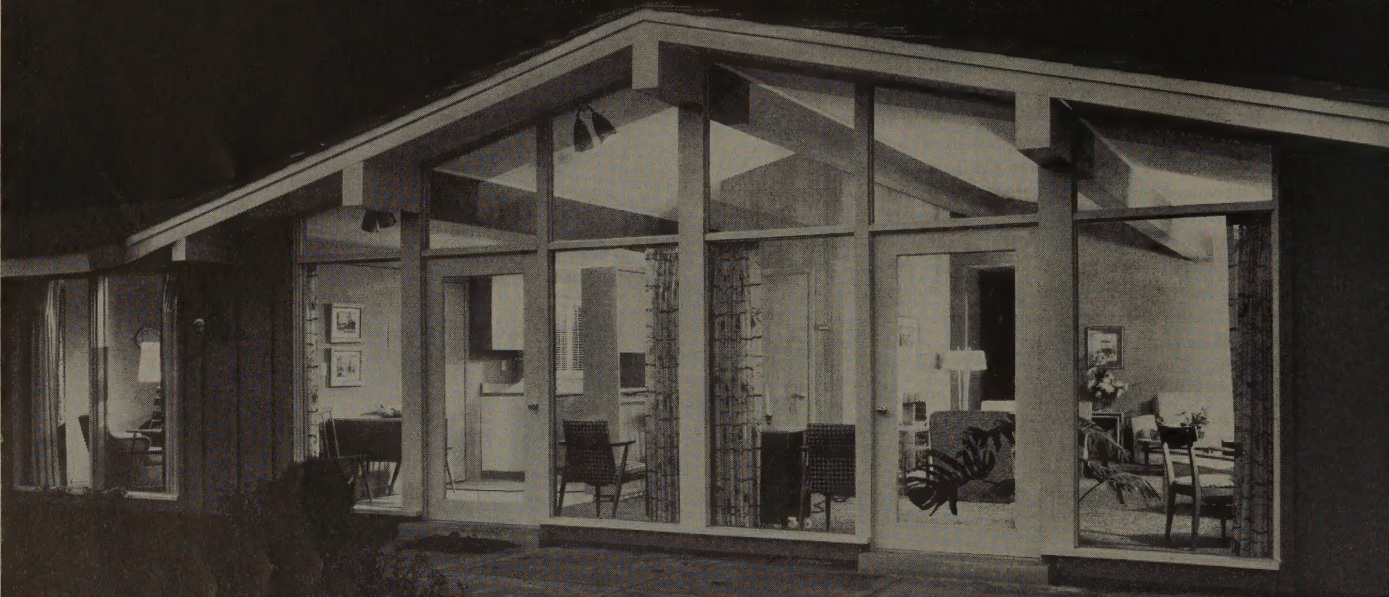


ARMSTRONG-DRUMMOND structure boasts a single hallway providing direct entrance to all rooms without trespassing through kitchen or living room. There is an abundance of extra storage space in the carport and convertible sleeping quarters. Patio is a good example of closed-off outdoor rooms used in all six houses.



THE HOMES WHICH ARE SETTING THE NEW
DESIGN TREND FROM COAST TO COAST

scholz *California contemporary* PACKAGE HOMES for 1954



Eventually you will want to join the trend to contemporary design which has captured the imaginations of the nation's home buyers. Why wait?—and let your competition garner your market.

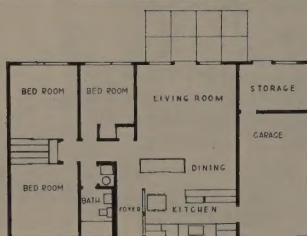
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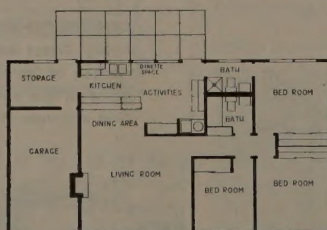
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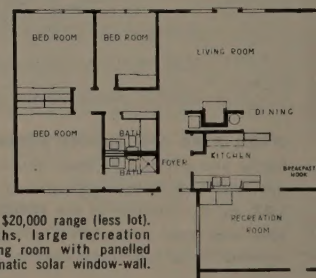


COUNTRY CLUB SERIES

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ROCKY RIVER SERIES



1584 sq. ft. plus garage, \$20,000 range (less lot). 3 bedrooms—2 baths, large recreation room, tremendous living room with panelled fireplace wall and dramatic solar window-wall.



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Canada revamps its housing laws on FHA model, but insurance will be 50% cheaper

Canada's revamped National Housing Act, emerging from Parliament this month after its most strenuous overhaul since it was passed in 1944, raised a question for US homebuilders: does FHA mortgage insurance cost too much?

The new Canadian legislation pointed to a "yes" answer. Mortgage insurance in Canada, said housing experts, will be close to 50% cheaper than in this country.

End of an era. Postwar homebuilding in Canada was strong. Because the banks were prohibited by law from mortgage lending (on a nineteenth-century theory that a young country that tied up its money in long-term mortgages was courting economic trouble), 80% of the private home financing devolved on insurance companies. The latter were able to obtain substantial funds for new investment by selling off large numbers of government bonds accumulated during the war. By the beginning of this year, however, the insurance companies had reduced these bond holdings by about \$800 million, or down from nearly 60% of their total Canadian assets in 1946 to about 20%. In the opinion of Canada's lawmakers—and of Dave Mansur, president of the Central Mortgage & Housing Corp.—it was time to tap a new source of credit lest homebuilding shrivel for lack of financing.

The answer was to get the business into the banks. Under the old system for government-aided private housing in Canada, the Central Mortgage & Housing Corp. took 25% of a mortgage and the private lender took 75%. There was no guarantee or insurance. But the private lender got 5¼% on his share while the government loaned its share at 3¾%. So the cost to the borrower was only 5¼%. But the government was using up hefty chunks of taxpayer money—some \$201 million in 1952, for example, covering 27,488 units. By switching to mortgage insurance, it hoped to cut its direct outlays for housing.

The problem, as Mansur saw it, was to devise an instrument that the banks thought suitable. "We're swinging over to a modified FHA," he commented shortly before the bill was passed. These were the modifications:

► The new insurance premium of 2% (on a home ownership loan) will be paid in one piece—capitalized into the loan at the outset. Thus a 20-year \$10,000 loan will cost the borrower \$10,200. It is thereby insured for its duration. The fee of \$200 insures a loan which would, under FHA's ½% premium paid on declining balances, cost about \$655—more than three times as much. (The actual saving would be close to 50% because the corporation will absorb the cost of administrative overhead, appraisal and compliance inspection.)

► The insurance fund is not mutual, hence will not be subject to claims by participants, as is FHA. Profits, if any, will go straight to the Treasury.

► Pay-offs in the event of foreclosure will be in cash, not in debentures. (Mansur knows perfectly well this could mean a run on the Canadian Treasury in a real depression. But Canadian finance officials are unworried about the threat.) The pay-off on a foreclosed property will be 98% of the outstanding principal and the first six months of arrears in interest, plus interest at the mortgage rate less 2% for amounts owing in excess of six months, but not exceeding 12 more months. Additionally, the government will reimburse lenders 100% of any borrower's charges which must be paid by the lender, such as taxes, fire insurance, etc. Finally, it will allow legal fees of \$125 in all cases (instead of the US system of up to \$75 in some cases) plus any legal expenses ordered paid by a court of law. This will, of course, have the unhappy effect of subsidizing continuance of archaic foreclosure laws, like Quebec's.

► Instead of Fanny May, the Central Mortgage & Housing Corp. will itself have the power to buy its own insured mortgages. Moreover, the insured mortgages will qualify for rediscount at banks and the Central Bank of Canada will control the rate, putting the insured mortgage on the same plane as government bonds for negotiability. The Bank will be able to make loans to chartered banks on the security of government-insured mortgages.

Interest ceiling. The interest rate setup will remain the same. The Canadian cabinet sets the rate (it is currently 5¼%) but with a ceiling of 2¼% higher than the going rate

CANADA'S 'MR. HOUSING'

David Ball Mansur, 46, drafted most of the parliamentary bill which set up Canada's Central Mortgage & Housing Corp. six years ago, logically stepped in as its first president. Brilliant, kinetic, he lives and breathes CHMC, habitually unnerves opponents on the Royal Ottawa Golf Course talking housing problems. One of his personally instituted programs: a rental insurance plan three years ago to encourage private builders—leery of possible rent declines—to put up apartment buildings. Some 14,768 units have been insured since, involving an outlay of about \$80 million.



MANSUR

on long-term government securities—a close parallel to the system the US will adopt if Congress enacts the administration's 1954 housing bill.

The banks' switchover to mortgage lending is expected to be effected without difficulty or undue time for seasoning. For one thing, there are only 11 banks in Canada (with 4,000 branches) and public opinion will impel them to start making such loans or risk losing depositors.

The old Canadian setup permitted loans up to 80% of value. The new act keeps an 80% loan ceiling on loans for rental housing, but provides owner-occupant loans up to 90% of the first \$8,000 and 70% above that. Thus, down payments on Canadian homes prices from \$16,000 down will drop. So will monthly payments: the act boosts amortization from 20 years to 25-30 years for home owners, but holds rental units to a 25-year pay-off. Loans converting existing houses into multiple units will have a 15-year amortization.

Last year, Canada built a record 105,000 units—almost exactly proportionate on a per capita basis to the estimated 1,104,500 starts in the US. With its liberalized housing act modeled after the US formula, Canada hopes to keep new housing from slumping.

Electricians found guilty of antitrust violations

A federal court jury in Nashville found Local 175 of the International Brotherhood of Electrical Workers and Business Agent Earl W. Burnette guilty of violating antitrust laws. The jury held that the union had conspired with the Chattanooga chapter of the National Electrical Contractors Assn. to refuse to supply men to nonassociation contractors.

Seattle bricklayers pass up pay boost for third year

For the third time in three years, the 600 AF of L bricklayers in Seattle's Local 2, covering four counties and southeast Alaska, passed up a chance at a wage increase, agreed to stand pat at the \$3.30-an-hour rate that has been in effect there since 1952.

The new look was the brainchild of Ed Gill, the local's business representative and financial secretary. Gill decided three years ago that kind words for his profession were too few and far between. So he persuaded his men to form a "unit masonry association" with contractors and materials dealers for the joint promotion of masonry construction. Among activities: advertising campaigns, an architect competition for designs using masonry products, apprentice bricklayer contests. Union members pay 40¢ a month to the promotion fund; contractors \$2 per workman per month; materials dealers' dues are commensurate with the contractors', on a gentlemen's agreement basis.

"I think we're educating the public to the



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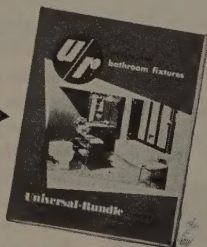
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Master Meadow . . . 4½', 5', 5½' lengths



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fact that we're not just a bunch of robbers, but people trying to do a job," said Gill. Said Contractor Arnold Antonsen, president of the association: "Holding the line on wages is giving more confidence to builders to use more brick."

Mortgage men foresee VAs, FHAs over par again

As mortgage money grew more plentiful, two schools of thought developed on the future course of the mortgage market. Some brokers predicted premiums for FHA and VA 4½% loans would soon be commonplace. Others saw such loans stabilizing at a little below par. Signs of the improving market:

► Early last month, the New York Savings Bank was reported offering 101 for new FHA loans, provided it could get delivery within 60 days in packages of at least \$1 million each. Reason: an advertising drive for new deposits was so successful the bank suddenly found itself with more than \$10 million of new funds demanding investment at once.

► In Chicago, Maurice Pollack, vice president of Draper & Kramer, reported new FHA and VA loans were going at 97 to 98, about one point better than a month earlier; in Houston, President John F. Austin Jr. of T. J. Bettes Co. said prices were up ½ to one point. C. A. Bacon, vice president of the Title Guaranty Co. of Denver, noted an upward trend. Said he: "Lenders are seeking investments, and at an increased price. . . I can see signs of a par market."

It was against this background that some eastern lenders began to worry about a widespread return of premiums and the possibility FHA and VA interest rates might even be reduced. Commented one: "The money is coming in just as fast as ever, but mortgages are scarce. The lucky guys are those who made commitments for the whole year."

Stability below par. MBA President William A. Clarke of Philadelphia, a shrewd mortgage analyst, typified the school of thought that saw continued improvement ahead, but stabilization of rates still a little short of 100 for new FHA and VA 4½% mortgages. At the annual MBA-NYU mortgage conference, Clarke said he expected new housing this year would total about 1 million units, with adequate mortgage funds and some decline in interest rates.

With money growing easier, Clarke forecast that the Treasury would "lean on the long-term money market" again when it appeared possible to do so without disruptingly siphoning off capital required for new business and building activity. He would not specify or forecast, however, the price below par, or the yield above 4½%, where he expected FHA and VAs to settle.

FNMA boosts its price. Effective Feb. 1, HFA Administrator Albert M. Cole announced a two-point increase in prices for VA 4% and FHA 4¼% mortgages from Fanny May under its one-for-one repurchase contracts. The VA's

went to 98, the FHA's to 99.75, plus the usual 1% fee for repurchase certificates.

Cole said the change "reflects improvement in the mortgage market, particularly in the firming up of government bond prices." Others disagreed. They said the old rates were no bargains in themselves and purchases from Fanny May without repurchase certificates were inconsequential. They suggested the rates really were raised to slow down the one-for-one sales as they approached their \$500 million ceiling. As of Feb. 15, one-for-

SIDELIGHTS

Washington inside

The administration is considering extending mortgage insurance—FHA style—into the hospital field. Kicking around in Oveta Culp Hobby's Welfare Dept. is a plan to underwrite 99% redemption on foreclosure for 5%, 25-year hospital bonds. Officials hope to raise about \$1 billion for hospital construction financing by this route. Insurance companies regard the scheme enthusiastically. It would give them a better return than FHA housing paper, with less risk and far less servicing cost. Mortgage men fear the plan would raise some hob with the housing mortgage market, unless the government whittles down the juicy terms—which is a good possibility.

\$12,600 public housing

Cost of New York City's newest federal public housing project, Gravesend Houses, opened Feb. 8: \$12,600 per unit (\$8 million for 634 units).

Union O.K.s prefab plumbing

The AFL plumbers union passed favorably on National Homes Corp.'s factory-assembled plumbing package, already approved by FHA. The union move points the way to possible savings of several hundred dollars on the cost of a house. Reducing costs and increasing volume, said National's president, James Price, will mean twice as much work for all trades, including plumbers.

US Steel forms mortgage firm

US Steel formed a new subsidiary, the United States Steel Homes Credit Corp.—headed by William H. Lang, assistant treasurer of the parent company—"to strengthen the competitive position of US Steel Homes' dealers" by providing construction financing and assistance in mortgage marketing. Still a subject of loud silence: plans for US Steel Homes' widely grapevined steel house.

Red tape and VA

The VA tied another knot in its own procedural red tape with a reorganization plan setting the all-purpose veterans' benefits section

one plan accounts looked like this: firm contracts, \$250 million; sales agreements, \$64 million; reservations, \$315 million. Thus reservations exceeded the remaining \$184 million authority for sales agreements or contracts, but these fluctuate considerably. Some reservations were canceled when the rates were changed, but a week later \$94 million of new reservations came in. As of Feb. 15, actual Fanny May repurchases against its \$250 million in firm contracts had reached only \$29.5 million.

up as a buffer between the loan guaranty section and the regional offices. Loan Guaranty Director T. B. King now must communicate with his men in the field through this super-bureau (headed by Deputy Administrator Ralph H. Stone) and the men in the field do likewise, going in the opposite direction. Result: more time to get out new rulings; more time to get complaints into responsible hands. The scheme came hard on the heels of the recommendation of the President's Advisory Committee that VA "should seek advice of lending institutions in revising and simplifying its regulations."

The presidential advisers found, among other things, that it takes two to three times longer to get a certificate of reasonable value from a VA field office than it does to get an FHA commitment. They blamed widespread complaints about VA appraisals on the fact that VA does not have a cost section as FHA does to keep accurate and constant check on fluctuating prices. They criticized VA insistence on documents and exhibits not required by FHA, particularly for new subdivisions. Some 28% of those questioned in a nationwide survey for the White House committee said conflict and duplication between the rival agencies adds more than \$100 to the cost of a house. Another 43% said it adds between \$20 and \$99. Always, the extra cost was passed on to buyers.

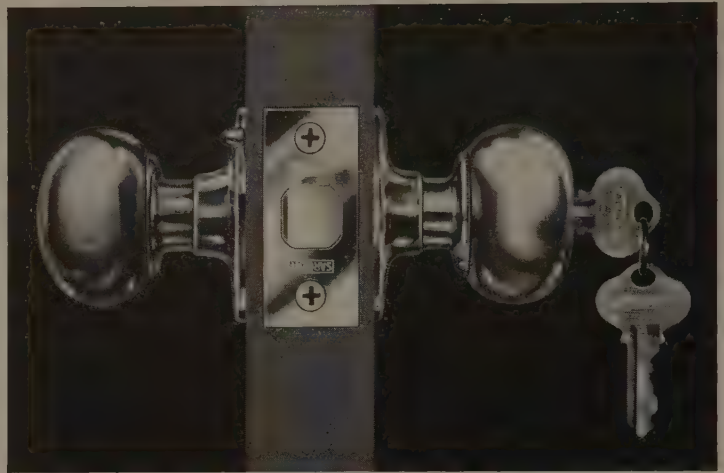
A proposal to have FHA do VA's home loan application processing (made by the advisory committee) would unsnarl things in the sense that VA would lose most of its responsibility. With builders, real estate men and the President's committee finding VA less and less to their liking, it seemed its housing role was being kept alive mostly by veterans' lobby groups—never notable for understanding housing problems.

Briggs to keep plumbing plants

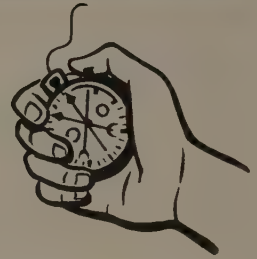
Briggs Manufacturing Co. will continue to operate its plumbing ware division, notwithstanding sale of Briggs's automotive division to the Chrysler Corp. The plumbing operation includes four divisions: the Hamtramck enamelware plant; the John Douglas Co.; Abingdon Potteries, Inc. and Republic Brass Co.

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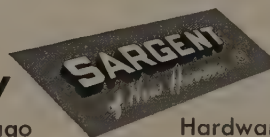
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Profits climb for building materials manufacturers

The greatest construction spending year in US history brought with it a general round of increases in the sales and net profits of major building supply companies. But the sharpest increases in earnings last year (Celotex, up 93.2%, and US Steel, up 55%) derived greatly from the fact that both companies were badly hit by strikes in 1952.

With the notable exception of Johns-Manville, whose net sales rose 3.2%, but whose profit fell 13.1%, earnings rose from .4% up to 35%. The 35% jump was by Carrier Corp., whose profits hit a new high for the fourth consecutive fiscal year. The drop in Johns-Manville's profits reflected high initial depreciation costs applied on two of its Canadian mines, as well as a reduced demand for certain asbestos fibers.

The companies, listed in order of sales volume in 1953:

COMPANY	PROFITS		%
	1952	1953	Change
US Steel Corp.	\$143,687,746	\$222,735,656	+55.0
Owens-Illinois Glass Corp. ...	16,200,820	16,267,386	+4
Johns-Manville Corp.	22,619,951	19,661,412	-13.1
Libbey-Owens-Ford Glass Co. ...	14,907,893	19,233,667	+29.1
US Gypsum Corp.	19,031,216	19,558,708	+2.8
Carrier Corp.*	4,522,512	6,107,134	+35.0
National Gypsum Co.**	7,249,480	7,700,000	+6.2
Flintkote Co.	4,896,737	5,032,116	+2.8
Carborundum Co.	4,782,503	5,721,553	+19.7
Celotex Corp.*	1,612,043	3,124,844	+93.2
Devoe & Reynolds Co.†.....	1,414,128	1,687,453	+19.3

* Year ending Oct. 31

† Year ending Nov. 30

** Estimated

Heat-resistant plastic pipe foretold by atom expert

In Toronto, the first international meeting of the Society of Plastics heard of an impending atomic-irradiated product more revolutionary than any of the dozens of useful building materials already being made from plastics (H&H, Feb. '53). Scheduled for early pilot project production: plastic piping that can resist up to 300° F. This could be used for domestic and almost all industrial plumbing, and because of easier installation, could make a real dent in the high cost of plumbing.

J. W. Ryan, radiation research specialist for General Electric, said the new material would be a modification of polyethylene pipe already developed for cold-water lines. Heat resistance would come from exposure to atomic or other high-energy radiation like that from retartrons or high voltage cathode ray apparatus. Extra manufacturing costs would be slight, said Ryan, because the piping could be molded or extruded first at low temperatures, and irradiated after it was formed.

FHA tests plan service as aid to small builders

In Springfield, Ill., FHA began testing a trial plan intended to help small-volume home-builders do more business with the agency. Small builders and retail lumbermen had

been complaining that FHA seemed interested only in project builders and prefabbers. To FHAmén, it seemed that small contractors were hard put to get their hands on adequate plans, and even when they did they often knew too little about how to get them processed quickly.

FHA District Director Harvey H. Nooner of Springfield devised an answer, sold it to FHA Commissioner Guy Hollyday as one of his "guinea pig" projects. The Illinois Lumber and Material Dealers Assn. will assemble a collection of stock plans from leading national plan firms. The Springfield FHA will look them over, announce which ones it will

Low-cost Title I, Sec. 8 FHA program gains momentum as Congress gets bill to end it

FHA's bargain-basement new house deal, Title I, Sec. 8, had never done much business. For most of the nearly four years since Sec. 8 was born, lenders scorned investing in pint-sized loans, which cost as much to service as bigger ones and thus netted them less per dollar.

Last month, just as Sec. 8 at last was picking up speed like a runaway train, the administration accepted the recommendation of President Eisenhower's policy committee to merge it with Title II. The 1954 housing bill, in its present form, would kill Title I, Sec. 8 (see p. 33), although FHA had plans to retain the essential features of the program for homes priced below about \$7,000.

Poor-man standards. The big difference—the thing that put a new Title I, Sec. 8 house within reach of a man who could not otherwise afford a new home—was lower construction standards. Sec. 8 subdivisions do not have to conform with FHA's strictest site improvement requirements, and can be sold without painting, final trim and landscaping, allowing low-income purchasers to save money by doing this work themselves.

Sec. 8 was inaugurated in Apr. '50 with a 95%, \$4,750 mortgage ceiling so a purchaser only needed \$250 cash for a \$5,000 house. Up to the end of 1951, however, FHA insured only 6,152 Sec. 8 homes, and in 1952 only 5,615. Last year, the figure sank to 4,625 units, but as the year ended a sharp upsurge in applications began. December insurance requests involved 1,568 units (a rate of nearly 20,000 a year). In the first five weeks of 1954 another 2,786 applications poured in (a rate of nearly 30,000 a year).

Product makes a market. The sudden spurt was chiefly attributable to zooming sales of National Homes's prefabricated Cadet houses. The Cadet, soundly designed and heavily promoted, sells for approximately \$5,600 a two-bedroom model, \$6,200 for four bedrooms (H&H, Nov. '53). But sales of conventional houses with Sec. 8 financing also were increasing. There were underlying reasons.

Twice last year, FHA sweetened Sec. 8

approve. The lumbermen will distribute approved designs to retailers and small builders. Nooner expected small towns to benefit most by the scheme. Said he: "We're aiming at the next bracket above the Sec. 8 house—houses in the \$7,000 to \$9,000 price class."

The stock plan trial was not calculated to make architects happy. Nor—stock plans being what they are—was it likely to help produce really good housing. But if it made FHA terms available where only conventional financing was on tap before, it might buoy up the housing market at a time when builders can use more customers.

mortgage terms for lenders. First, FHA authorized a ½% service fee to compensate lenders for the relatively higher expense of handling these small mortgages. Second, Congress authorized a \$1,000 hike in the value of houses under the program, or a \$5,700 mortgage on a \$6,000 home.

National Homes dealers taking orders on Sec. 8 terms from model Cadet homes reported impressive sales stories:

► The first day a model was opened in the Okaw Homes project at Tuscola, Ill., near Champaign-Urbana, 87 houses were sold; by the end of a week, 104.

► At noon Jan. 24, the Ames Construction Co. in East St. Louis opened a model. By 4:30 p.m. it had orders to build houses on all 47 lots it controlled. Within another two weeks, it accepted applications for 60 more sales on another site.

► In Valdosta, Ga., Dealer B. H. Roberts Jr. was erecting 20 Cadets in January for a company-housing project. By the first week in February he had sold 55 more to individuals though he had neither a sales program nor a model house.

Order system. Dealers do not contract to buy a fixed number of units from National Homes, although in some cases they may announce they plan projects of so many hundreds. The system: based on dealers' sales plans, National ships them one house a day, or 10 a week, or 100 a month. If a dealer finds he can sell more and can put them up at the faster pace, National ups shipments accordingly. Primarily, however, the dealer only orders houses from National on the basis of the firm orders he takes from home buyers, and National ships them to him on a schedule geared to his erection program.

Quality controls. Some critics question whether the minimal specifications for Sec. 8 subdivisions may create rural slums. For instance, Realty Editor Grady Clay wrote recently in the Louisville *Courier-Journal* that in Dealer A. L. Willie's development at Brandenburg "the streets are unpaved, the sidewalks and driveways graveled," although

the town agreed it would asphalt the subdivision streets over a five-year period. Of the model house, Clay wrote: "Floors are of pine board, with no subflooring or insulation. . . . The roof does double duty as ceiling throughout The walls transmit sound easily; there are no gutters to carry rain away from the front and back doors; the refrigerator is right beside the furnace; the exterior walls are cold. The exposed roof rafters have an array of knots, even an occasional knot hole. To all these points one must immediately ask: 'What do you expect for \$6,000 these days?'"

Although Sec. 8 allows construction in outlying and rural areas without city water, septic tanks and other strict site-improvement rules that apply to Title I financing, FHA directors seemed to be using moral suasion and unwritten controls to avoid large Sec. 8 subdivisions that could become rural slums. National Homes is meeting this problem by having Architect-Consultant Charles M. Goodman approve all project layouts before selling a dealer his houses. Moreover, the firm is offering several \$1,000 prizes for the best subdivision layouts.

Low-cost conventionals. In the non-prefabricated market, Suffolk County, Long Island, was one area experiencing a small Sec. 8 boom. Builders Milton Saper and George B. Rabinor opened a project in Central Islip in October. By the end of December, they had sold all 318 units. These were 600 sq. ft., \$5,990 slab-foundation houses with a sinktub and central heating plant included. The builders accepted the \$300 down payment in installments, \$60 at contract signing and the remainder between then and title closing.

Four other Sec. 8 projects totaling about 600 more houses were started in Suffolk County last fall, and the market at \$5,990-\$6,000 was brisk and competitive. One offered almost 700 sq. ft. of floor area with unfinished space for a den or third bedroom; another was completely painted, another supplied kitchen cabinets. At least four more projects were planned for 1954, elsewhere in the county. After Carlton Park was started Islip township adopted an 800 sq. ft. minimum—200 sq. ft. above FHA's Sec. 8 minimum.

Twelve Sec. 8 projects totaling 1,156 concrete block houses were abuilding in Florida. Others were rising in Maryland, Michigan, Oklahoma, Georgia and the Syracuse, N.Y. area.

NAREB, taxpayer groups organize realty federation

NAREB and the National Apartment Owners Association launched a national federation of existing local, state and national property owner and taxpayer organizations called the American Real Property Federation. Its headquarters, phone and boss, Herb Nelson, were all the same as NAREB's, in Washington.

PEOPLE: Joe McMurray quits Senate banking committee for NY public housing job; Hugh Askew of FHA to join NAHB

For the last five years, as staff director of the Senate banking committee, **Joseph P. McMurray** has been one of the key men behind writing the nation's housing laws. Courtied by every organization interested in housing, 41-year-old McMurray is 1) a dynamo with a keen and politically perceptive mind, and 2) a genius at writing legislation for hasty introduction following a committee wrangle.



McMURRAY

Both Democratic Committee Chairman **Burnet Maybank** in the 81st and 82d Congress and the present chairman, **Homer Capehart**, have relied heavily on his judgment, his facts and his speech-writing talent. Twice recently, Republican Capehart has sent Democrat McMurray to speak for him at building industry meetings.

Last month, Mayor **Robert F. Wagner** of New York wooed McMurray away from his \$11,700 Washington job for a \$17,500-a-year post with the New York City Housing Authority. Whether McMurray would become executive director or assistant to Chairman **Philip J. Cruise** (a reappointed holdover from Mayor Impellitteri's regime) was still unsettled. McMurray was to move to New York this month, after helping draft the new housing bill.

The resignation of Colonel **Hugh Askew** as ass't. FHA commissioner in charge of field operations struck Washington observers as the start of a big-scale personnel shake-up in FHA's top brackets. Askew, 58, with FHA for 19 years, will join NAHB's new mortgage finance department. He headed FHA's Oklahoma office before going to Washington, pioneered cooperative and low-cost housing in the Southwest; **Edgar McIntosh**, assistant to the commissioner, left last month to head up mortgage operations for Southern & Western Life Insurance Co. in Cincinnati; **Ward Cox**, former ass't. commissioner for cooperative housing, went into private consultant work in Washington. FHA corridors buzzed with talk that **Curt Mack**, long-time ass't. commissioner in charge of underwriting, would be leaving the agency shortly.

District directors (more than half of FHA's 74 offices had new men by the end of last year) continued to come and go: **F. Guy Ash** left the West Virginia post, to be replaced

by former Congressman **Hubert S. Ellis**; Realtor **Wallace E. Berg** took over in Minnesota, replacing **Harold B. Farley**; **Fred B. Ingstad** succeeded to the North Dakota office on the death of **A. E. Goldammer**; **Frank W. Corliss** was appointed director in Vermont, will keep ex-Director **Frederick C. Hinchey** on his staff.

NAHB President **Dick Hughes** named a new 18-man executive committee: the five top officers and Past President **E. M. Spiegel**; **Leonard Frank**, Long Island; **George Goodyear**, Charlotte, N.C.; **Joseph Haverstick**, Dayton; **E. J. Burke Jr.**, San Antonio; **Martin Bartling Jr.**, Knoxville; **W. Hamilton Crawford**, Baton Rouge; **Frank Collins**, Philadelphia; **Wallace Johnson**, Memphis; **Arthur Oman**, Boston; **John Worthman**, Ft. Wayne; **Andy Oddstad**, San Francisco; **Frank W. Cortright**, Berkeley, Calif.

Title I FHA repair loan operatives made criminal news again. An Oakland, Calif. improvement contractor and three of his salesmen were indicted by a federal grand jury on four counts of conspiracy to violate the Federal Housing Act, and on 11 charges of making false statements. The four—**N. H. DeShong**, **Arnold Woll**, **Ben Zukerman** and **James N. Stefan**—were accused of offering home owners who bought their improvement services fees for use of their homes as "models." The fees were never paid. The indictment came after the customers complained.

Architect **Eero Saarinen** was named, with four others, to membership in the National Institute of Arts and Letters. Membership in the society (it is affiliated with the American Academy of Arts and Letters) is for life, is limited to 250 and is based on a candidate's "notable achievements in art, music or literature." Architect **James Kellum Smith** of New York was one of two new vice presidents elected.

Architect **Richard J. Neutra** deeded his drawings, architectural studies, travel sketches, manuscripts and photographs to the University of California in Los Angeles, along with funds for proper utilization of the material. A board of three will be commissioned to study the accumulation and take care of its division into texts and dissertations. Said Neutra: "Such editing should be commenced as soon as possible and I shall be available for consultation in all its phases."

CONGRATULATIONS: to **Helena M. Carter**, 18-year-old high school senior from Atlanta, Ga., for winning NAREB's prize for the best essay on "My Responsibility under the Bill of Rights"; to Sacramento Realtor **Thomas W. Yeates**, chosen the city's "outstanding young man of 1953" by the junior chamber of commerce.



ASKEW

Washington Lawyer **John C. Williamson**, counsel for NAREB's Realtors' Washington Committee for the past three years, was appointed RWC secretary counsel. The main lobbyist post for NAREB's 50,000 members has been vacant since **Calvin Snyder** quit six months ago to become secretary of the Denver Chamber of Commerce. Tall, Gable-mustached Williamson (a Marine Corps captain in World War II) had been taking on more and more of the lobbyist duties during his time as counsel. **Henry G. Waltemade** of New York was reappointed RWC chairman. **W. L. Cooper** of Port Huron, Mich., was named vice chairman.



WILLIAMSON

OPINIONS: these intellects commented on matters of moment to housing:

▶ "The first step in effective slum prevention is for the city to use its police power, enforcing our existing laws with respect to construction standards, sanitary codes and the occupancy laws. The failure to enforce these laws in New York City is open, flagrant and notorious."—**George L. Bliss**, president of Century Federal Savings & Loan Assn. of New York.

▶ "Texas architecture is singularly lacking in inspiration. You do have some architects who will make a record for themselves, but Texas seems to have gone the plant factory way. Everything is big architecture, big business."—**Frank Lloyd Wright**, speaking at the University of Houston.

▶ "The average family buys but one home in a lifetime. Consequently, that house should be able to expand as the family expands."—**Clair W. Ditchy**, president of AIA, discussing movable walls at a Los Angeles meeting.

▶ "A small public housing program will not sustain a widespread redevelopment program."—**James G. Thimmes**, chairman of the CIO housing committee (in a letter to President Eisenhower).

▶ "Public housing is an incentive destroyer. It does more harm than good. For every family it accommodates, in effect it makes a vain, incentive-killing promise to hundreds of other families in the same income group—the promise that they all can expect huge government-financed discounts in family housing. It induces these families, for whom it does nothing, to be unwilling to pay for the best quality of housing that is within their means."—**Ronald J. Chincock**, at his installation as 1954 president of NAREB.

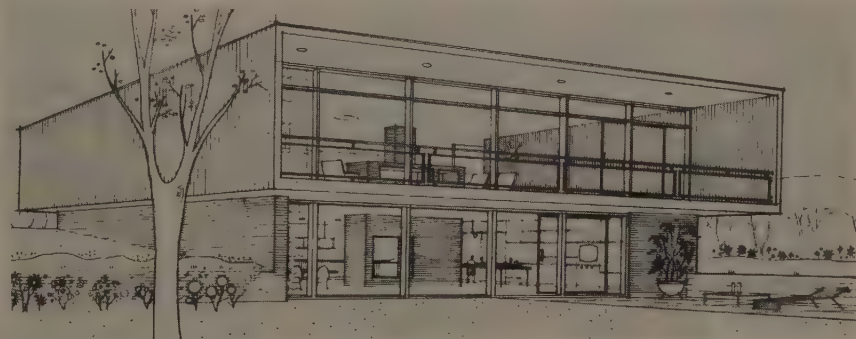
Stewart McDonald, second FHAdministrator (1935-39) retired as chairman of the board of Maryland Casualty Co. (First FHAdministrator was **James A. Moffett**, who died last spring.)

John Taylor Egan, 63, ex-PHA commissioner with 12 years of government service, will join the Washington office of Arthur C. Holden & Associates, New York architects. Egan was nudged out of the commissioner's job (which he had held for five years) last June to make room for administration choice **Charles E. Slusser**, former mayor of Akron, Ohio.

NAMED: Architect **Edmund R. Purves** of Philadelphia, executive director of AIA, to serve on the advisory committee on housing established by FHA last year; **Cola G. Parker** of Neenah, Wis., chairman of the board of Kimberly-Clark Corp., to be chairman of the board of the Federal Home Loan Bank of Chicago; **M. E. Rinker** of West Palm Beach, new president of the National Concrete Masonry Assn.; Architect **John G. Flowers Jr.** of Austin, as executive director of the Texas Society of Architects.

DIED: Wisconsin's "No. 1 realtor," quiet, humorous **Otto N. Ludwig** of Wauwatosa, in real estate and the mortgage loan business 62 years, Feb. 2 in Wauwatosa. He was 79. He was known as the father of the Wisconsin real estate brokers' license law; served ten years as treasurer of the Milwaukee Realtors Board and was active in introducing uniform conveyance blanks and fees in 1929. (He estimated the new system saved the people of the state an annual \$200,000 at that time.)

Other deaths: **R. Bruce Estelle**, 55, of New York, head of the real estate department of the National City Bank in his youth, recently in business for himself and real estate consultant to the Ford Foundation, Feb. 9 in New York; **Theodore L. Shaffer**, 61, of Montclair, N.J., first vice-president and a director of Congoleum-Nairn, Inc., Feb. 12 on a business trip in Chicago.



Washington architect designs House of Tomorrow

Realty Editor Paul Herron of the "Washington Star" was reading a **HOUSE & HOME** Round Table discussion on home design when he had an idea: why not synthesize the ideas for better home design into a single "house of tomorrow" suited to the capital's climate? To plan this dwelling "on a hypothetical site for hypothetical clients" he drafted Architect Joseph Miller.

Wrote Miller in describing the house:

"The site slopes gently to the south. This allows upper and lower levels to be fully glazed. . . [with] a cantilevered terrace on the entrance floor [upper] and direct exit at grade at the floor

Income tax case threatens builders' 608 earnings

The Bureau of Internal Revenue decided to make a test case of tax policy on stockholder distributions by housing development corporations. For as long as anybody can remember, the policy has been to consider such increment as capital gains. Stockholders have thus paid a tax approximately one-third what they would have if their receipts had been considered ordinary income. As a test case—seeking a legal decision that stockholders are eligible for full income tax—the bureau picked George Gross, big New York builder, told him that he and his wife owed \$715,826.80 more taxes for 1948 and 1949. Involved, said a BIR attorney, was the profit the government says the Gross's netted because an FHA Sec. 608 mortgage exceeded the actual construction cost of a big Long Island project. Internal Revenue estimated that taxes due for 1948 and 1949 from the 11 stockholders who shared in the Gross and Morton family enterprises amounted to a little over \$3 million. (This was in addition to the \$1,553,000 in taxes that they did pay.)

The Gross Case, as it will undoubtedly be known hereafter, was scheduled for hearing in US Tax Court in Manhattan this month. The exchange of briefs (no charges were involved) was expected to be short. It was purely a question of law. But it was also a question which, put to the test, was of intense interest to the entire building business. The Bureau of Internal Revenue stated that a decision in its favor would mean "hundreds of millions" of dollars in additional taxes. The builders' stand: stockholder payments are capital gains because they come about through an increase in a capital asset.

below [to rear yard and garden]. . . Because the house is air-conditioned . . . windows occur only on the south and north exposures. Clerestory windows supplement perimeter lighting in certain locations. . . Practically all furniture is built-in-place.

"The plan provides a large living area and sleeping wing on the entrance floor. . . The fireplace has been kept at waist height to permit full exploitation of the garden view. . . On the floor below are kitchen, dining and recreation areas . . . space for hobbies, games . . . utility and storage rooms."

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HOUSING STATISTICS:

Revised figures show private starts last year topped '52's; home mortgages set records

Last month, BLS boosted its estimate of new housing starts of last October by 2,000 private and 100 public units. The increase made 1953—a year of loudly proclaimed mortgage crisis—a year with more private housing starts than 1952. The margin was slim—1,068,900 to 1,068,500—but it would probably grow a little after November and December revisions.

Last year's nonfarm mortgages of \$20,000 or less set an all time record, too: \$19.7 billion (table below). They also toppled other records: there were 3,164,000 mortgages; they averaged \$6,241, compared with \$5,701 in 1951 and \$5,950 in 1952.

Nor did FHA and VA new home mortgages diminish last year. VA-guaranteed loans on new and proposed construction rose from 192,203 in 1952 to 202,934 last year. Loans on houses priced below \$7,000 dropped from 9,047 to 4,155; loans on houses from \$7,000 to \$9,999 fell from 68,654 to 56,631. But loans for houses costing \$10,000 or more soared from 115,182 to a record 142,148, or 70% of all new houses bought by vets.

FHA wrote insurance covering 151,777 dwelling units in new one-to-four-family homes last year, compared with 122,764 in 1952. Last year's mortgages on such units totaled \$1,259 million, compared with \$969 million in 1952. The average per unit rose 5.1%, from \$7,890 to \$8,292.

MORTGAGE LENDING ACTIVITY

(Investments in millions of dollars in nonfarm mortgages of \$20,000 or less by various types of lenders)

	S&L assns.	Ins. cos.	Comm. banks	Mutual savings banks	All others	TOTAL
1952						
October	627	134	342*	117	505	1,727
November	526	115	298	103	448	1,492
December	540	126	305	112	471	1,553
12 months	6,452	1,420	3,600	1,137	5,408	18,017
1953						
October	658	123	319	122	521	1,746
November	564	114	290	113	468	1,549
December	569	126	291	128	508	1,622
12 months	7,365*	1,480	3,680*	1,327*	5,895*	19,747*
Change: full year	+14.1%	+4.2%	+3.3%	+16.7%	+9.0%	+9.6%

*All-time high.

Source: Federal Home Loan Bank Board

MORTGAGE MARKET QUOTATIONS

(Originations quoted at net cost, secondary market sales quoted with servicing by seller)

City	FHA 4 1/2's		VA 4 1/2's		FHA 4 1/4's Secondary	VA 4's
	Origina- tions	Secon- dary	Origina- tions	Secon- dary		
Boston: local	100-101	—	100-101	—	a	a
Out-of-state	97-98	—	97-98	—	a	a
Chicago	97-98	98-99	97-98	98-99	a	a
Denver	97 1/2-99	97 1/2-99	97 1/2-99	97 1/2-99	a	a
Detroit	96 1/2	97 1/2	97 1/2	98 1/2	a	a
Houston	97-100	97-100	95 1/2-98	95 1/2-98	a	93 1/2
Kansas City	98-99	99	98-99	99	a	a
New York	99-100	a	99-100	a	99c	a
Philadelphia	98-100	98-100	97-100	97-100	a	a
Portland, Ore.*	97 1/2-99	97 1/2-99	97 1/2-99	97 1/2-99	a	a
San Francisco	b	100	b	98-100	98	96

*No market. bMarket too uncertain to record stable quotations.

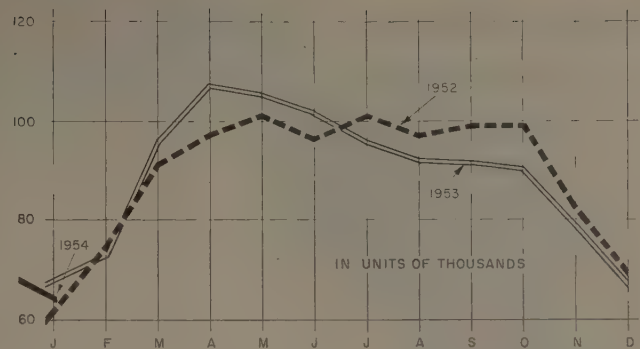
cServicing released by originator to purchasing bank.

*Also indicative of rest of Pacific Northwest.

SOURCES: Boston, Robert M. Morgan, vice pres., Boston Five Cents Savings Bank; Chicago, Maurice Pollak, vice pres., Draper & Kramer, Inc.; Denver, C. A. Bacon, vice pres., The Title Guaranty Co.; Detroit, Robert H. Pease, pres., Detroit Mortgage & Realty Co.; Houston, John F. Austin Jr., pres., T. J. Bettes Co.; Kansas City, Byron

T. Shutz, pres., Herbert V. Jones & Co.; New York, Albert E. Berkeley, vice pres., Berkeley-Steiner, Inc.; Philadelphia, William A. Clarke, president, W. A. Clarke Mortgage Co.; Portland, Franklin W. White, pres., Securities, Inc.; San Francisco, William Marcus, senior vice pres., American Trust Co.

PRIVATE HOUSING STARTS



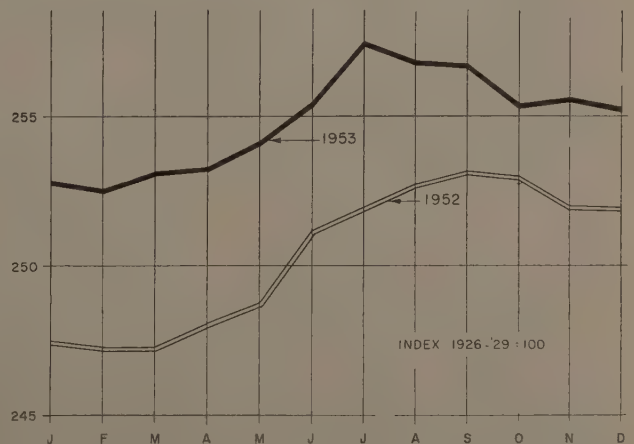
Private nonfarm dwelling units started in January totaled 64,700, almost exactly midway between 61,400 in Jan. '52 and 68,200 in Jan. '53. There were only 1,300 public housing starts, compared with 3,900 in Jan. '53, according to BLS.

FHA AND VA APPLICATIONS



FHA insurance applications in January covered 24,318 new dwelling units, only 127 below Jan., '53 (24,445). Appraisal requests to VA, however, covered 20,124 new units, an increase of 6,318, or 47% over the 13,806 units in Jan., '53, applications.

RESIDENTIAL BUILDING COSTS



E. H. Boeckh & Associates' index of residential building costs turned down again in December to 255.2, compared with 255.5 in November and 255.3 a month earlier. The peak last July was 257.4.

BUILDERS AT WORK:

Long-distance selling

LONG ISLAND Homebuilder Bradford Stiles and Designer Joseph N. Heintz, Sarasota, Fla. joined forces, planned a group of 150 ranch houses in Sarasota priced at \$10,500 on minimum plots of 9,000 sq. ft. They decided to improve on the usual practice of selling Florida homes to northern buyers from scale models, blueprints and artists' sketches. Instead, Stiles built a model in Huntington, L.I., convenient for New York prospects. Now they can inspect an exact copy of the house they are buying in New York, but take delivery 1,100 mi. away in Sarasota.

San Francisco doldrums over

Realtors said the home sales doldrums around San Francisco were past and buyers were back in the market as eager as ever. They predicted early announcement of several large developments in Marin County, northward across the Golden Gate Bridge. These would serve not only San Francisco workers, but others from the rapidly expanding industrial area around Richmond, on the eastern shore of San

Richard Averill Smith



Long Island houses merge three living area rooms

Growth of light industry on Long Island and the large AEC research center at Brookhaven were boosting homebuilding in Suffolk County, the island's eastern end. Last month, Housing Assoc. headed by Bernard Krinsky announced plans to erect at least 4,500 homes over the next five years, starting immediately with Eastwood Village, a 1,500-home community at Centereach, almost 50 mi. from Manhattan.

Eastwood Village homes, priced from \$9,990 up, will have the same basic 21'-8" x 20'-4" open-plan kitchen-dining-living room (shown above), with only the central fireplace chimney to provide separation. Said Architect Herman H. York: "Eventually kitchen appliances will be part of the furnishings of a house . . . refrigerators will be built-ins."

Housing Associates won an NAHB award for outstanding community planning at its Forest City project in Wantagh, L. I. Affiliated with it for the Eastwood Village project: Norman K. Winston, defense housing and New York and Chicago apartment builder.

Francisco Bay, to which a new bridge from Marin County is now under construction. . . South of San Francisco Henry Doelger started work on the 1,000 houses to be added to his Westlake development this year, and he may add 200 apartment units to the schedule. In January, Doelger invited his 87 five-year employees to a party, awarded them surprise bonuses totaling \$100,000.

Prefabs win a major convert

Chicago Builder George Nixon, describing himself as a "fanatical" convert to prefabrication, announced his firm would turn completely to prefab work. Nixon, first (1940) president of NAHB, has thus far completed about 160 prefabricated homes in the city's suburbs. He started out with larger units (to break down area resistance to prefabs), is now developing plans for a four-bedroom unit to sell for around \$6,200. He figures his homes sell for from 20% to 25% less than conventionally built houses of comparable size. (Note: a first estimate on the number of prefabricated homes shipped by the industry in 1953 was 55,000—making it the second biggest year in terms of unit production.)

Will Miami pass New Orleans?

Prediction by Philip Moore, president of First Research Corp. of Florida: in 1958, metropolitan Miami will pass Atlanta and New Orleans to become the South's largest city. Moore said present populations are: New Orleans 736,000, Atlanta 724,000, and Miami and vicinity totaled a record \$203 million. But in four years the order will be reversed, he predicted: Miami 920,000, Atlanta 840,000 and New Orleans 820,000. Since 1940, metropolitan Miami population has increased almost 150%, Atlanta's about 60%. Last year building permits in Dade County (Miami and vicinity) totaled a record \$203 million; those in adjacent Broward County a record \$54 million. They included 15,648 one- and two-family homes, 6,353 apartment units, 3,336 hotel and motel rooms.

Quarry to produce a city

In Los Angeles, South Bay and Rolling Hills residents protested plans of Great Lakes Carbon Corp. to quarry diatomaceous earth on a 165-acre site on the Palos Verdes peninsula. They claimed fine dust from the operation would create a health hazard and impair property values. But Los Angeles County Health Officer Roy O. Gilbert, after "extensive research," testified there would not be any hazard. Outcome: county supervisors issued a permit for the quarrying, subject to 16 nuisance-reducing conditions and review of the permit after five years. Thus the way was cleared for Great Lakes Carbon to proceed with plans for a new city of 11,000 homes to be developed over a period

Milwaukee Journal



\$94-a-month unit vies for rooming house trade

Milwaukee Homebuilder A. K. Hellerman likes to do the unusual. One of his ideas: a downtown building of all-efficiency apartments for single persons and young couples who want to live near the heart of the city but often can do so only in unattractive rooming houses or sub-standard housing.

The result, completed last fall, was this four-story walkup. It has 39 1-room-units of 312 and 360 sq. ft. (plus baths). With rents \$94 to \$104 a month, furnished, the apartments were snapped up fast. Each apartment has an individual room heater and kitchenette facilities.

of ten years on the adjoining 6,800 acres it was forced to buy to acquire the quarry site (H&H, Dec. '53). Architect Victor Gruen was master planning the new community. Development details would be handled by Capitol Co., a trans-American subsidiary that bought a 21% interest in it.

550 house program launched

Cleveland's steady industrial growth spurred suburban homebuilding apace. Developer R. A. Gall started a \$12 million program to erect 550 homes in six subdivisions, with different builders working on each subdivision. At the first in Seven Hills, Charles Delia had completed 15 out of a total of 77 in the \$25 to \$33,000 price range designed by Architect Jack Allen Bialosky. Site improvements were under way for spring starts in the other five groups: 40 at \$20 to \$25,000 in Broadview Heights, 185 in Middleburgh Heights, and 120 in Strongsville, 32 in Parma, and 90 in Parma Heights at \$17,000.

Pulse of the market

Stanwood Homes of Philadelphia sold an entire development of 136 of its lightweight concrete-construction air-conditioned houses to be built in nearby Bucks County starting in April. In December and January, it took down payments averaging \$750 on 108 three-bedroom models, and averaging \$1,000 on 28 four-bedroom models.

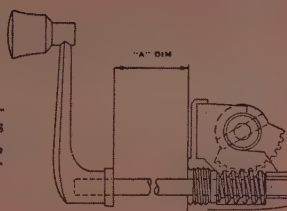
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Slum clearance depends on solving minority housing problems, says HHFA Administrator

What is probably the plainest talk yet by a high government official on the relation of slum clearance to minority housing problems came last month from HHFA Administrator Albert Cole. He was speaking to the Economic Club of Detroit—a city with a background of race riots, a still-swelling Negro population (now about 17%) housed in about a dozen different Negro districts.

In essence, Cole warned his audience of top businessmen and civic leaders that they cannot hope to wipe out the slum rot that blights their city until they overcome the race prejudice that now denies Negroes as much land to live on as their purse could buy. Either do something about minority housing, or forget about slum clearance, said Cole.

'The critical factor.' This is the way he put it: "... Regardless of what measures are provided or developed to clear slums and meet low-income housing needs, the critical factor in the situation which must be met is the factor of racial exclusion from the greater and better part of our housing supply. I must tell you that no program of housing or urban improvement, however well-conceived, well-financed or comprehensive, can hope to make more than indifferent progress until we open up adequate opportunities to minority families for decent housing.

"... At least two-thirds of the slum families in many of our major cities are minority families who, regardless of income, would find it extremely difficult to get other housing. We cannot hope to meet the housing requirements of our low-income families—of which minorities constitute a disproportionately large number—until and unless we open the doors of an adequate supply of good private housing to them.

"This is not, let me stress, a low-income problem as such. Low income simply complicates the problem of many minority families, but all face it—even those with relatively high incomes. A great many of these families are able and willing to pay for good housing, if they can find it. Their incomes have greatly improved over the past decade, and they are ready to enter the market if the market will receive them. Recent studies in a number of our large cities indicate a very substantial waiting market for Negro housing ranging from \$40 to \$90 in rents and from \$6,500 to \$15,000 for sales housing, with a fair number of minority families able to enter the luxury market."

Neglected market. Al Cole called it "very poor business to ignore one-tenth of our population as a housing market." He added: "It is worse than bad business. We are simply not living up to the standards of a free economy and a democratic society."

Cole recited what real estate men and



ALBERT M. COLE

builders know, but most mortgage lenders publicly deny: 1) the best hope for Negroes to escape slums is to buy an old house in a declining neighborhood for more than it is worth; 2) "if he is able and willing to pay the price, he has difficulty getting financing on reasonable or even equal terms."

Having spoken those blunt truths, Al Cole added another blunt truth that vocal Negro champions do not like to hear. Said he: "This is not primarily a federal problem. . . . The real problem lies with the citizens—the businessmen, the builders, the lenders, the realtors and the civic leaders and officials who will have to face [it]. . . . The blockade of custom and code, of unjustified economic

fears, must be breached, and the Negro family must be given access to good homes and good neighborhoods. No citizen can afford to let this minority housing pressure continue to build up to the explosion point, as it already has in some instances [see below].

"Federal help cannot do the job by itself. . . . It can only assist the communities to do the job. . . . If you don't want to clear your slums and renew your cities, forget it. But if you do, then get busy. . . ."

• • •

Growing interest in building for the Negro market may be matched by stepped-up government aid, according to Joseph Ray, assistant to the HHFA Administrator for racial relations. Ray said he hoped to expand the staff of government housers aiding minority projects from 18 to about 35. Ray told House & HOME he detected signs that sites for minority housing are becoming more readily available.

A panel on minority housing at NAHB's January convention agreed sites and financing are still the big problems of serving the Negro market. President Maurice E. Massey Jr. of Peoples Bond & Mortgage Co. of Philadelphia declared he intended to "triple our volume" of Negro housing loans in the next two years because the Negro has "earned the respect of mortgage bankers simply and quietly by paying his debts." Of the 12,000 loans he was servicing, said Massey, there was no difference between the delinquency rate for white and nonwhite borrowers. On the other hand, Mortgage Banker Donald McGregor of Houston reported Negro delinquencies among the 56,000 loans his firm services were "more than twice the over-all average." Said housing Director Reginald A. Johnson of the National Urban League: "Builders slowly are convincing mortgage bankers that this is a sound market."

New York quarrels over relocating slum displacees—tiny fraction of people who move

Does slum clearance via redevelopment and public housing breed new slums? In New York, a rent-controlled city where housing is still a big problem, the question became a front-page issue last month. Its national implications pointed at the touchiest building problem of all: race prejudice.

The ruckus began back in December when word leaked out that New York's city planning commission was bottling up a sizzling staff report on relocation of slum families because—so the allegations went—City Construction Coordinator Robert Moses and three other commission members wanted to water down some of the findings. Civic groups (among them the Citizens Housing & Planning Council) and finally the city council itself put heat on the planning commission to air the study. After seven weeks of ponder-

ing, the commission did so. Facts revealed:

► Between Jan. 1, '46 and Mar. 31 last year, 45,810 families and 17,820 individuals (total: 170,000 persons) had to move because of slum clearance. Of them, 37% were nonwhite and Puerto Rican.

► About 29% wound up in public housing. But even New York officials did not know what happened to the other 71%. A sample survey among 3,284 tenants showed these movements:

To public housing. . . .32%	Unknown42%
To other slums11%	Misc.4%
To nonslums11%	

► In the next three years, New York expects to uproot 56,120 more tenants (about 18,700 a year, compared to a 14,000-a-year pace for the last three years). About 35% of the displacees will be nonwhite and Puerto Rican



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... when you create a home from "marks on paper" and you give it your "personal touch" you feel mighty proud . . . and naturally so. But . . . how often does the potential housewife look at the kitchen sink and remain *silent*? When that prospective housewife looks at that sink—she's looking at the one part of the whole house that she'll use the most. Thus, really, that should be an important item to a builder. It should be a conversational sales booster to any home. Are the sinks you're putting in homes causing favorable comment? Then, by all means install an ACTIVE Stainless Steel Sink. *Watch the difference!* Just try one, if you like . . . then *check* the difference!

Ask your plumber about ACTIVE QUALITY WARE STAINLESS STEEL . . . he'll know about it and can tell you of its advantages for the housewife. It's not only stainproof—but it's everlasting.

The leaders are leading the way . . . with ACTIVE Stainless Steel Sinks. They're beautiful when new and become more beautiful as time passes.

—the groups that have the most trouble getting into private housing.

► To help rehouse these 18,700 annual pawns of redevelopment, New York offers cash bonuses of from \$300 to \$500 to families that find themselves new homes. The real estate bureau of the Board of Estimate (top city governing body) supervises most relocation except that involving public housing, which is handled by the City Housing Authority. (In practice, as the report did not point out, the city realty bureau turns the job over to private realty firms.)

Is it well done? Was the machinery adequate for the relocation job? On that, the planning commission split 4-3. The majority agreed with Moses that it was. The minority, including Planning Commissioner Laurence Orton, demanded the city set up a central relocation bureau to insure uniform treatment of displacees. It accused the majority of distorting the staff's conclusion that New York has too little vacant land to meet its needs for new housing in the next decade. (The commission did agree the city should have a \$100 million public housing program financed by a tax of \$2 a year on every telephone.)

All in all, the report shed a disappointingly faint glimmer on one of redevelopment's darkest corners. But if facts were slim, there were still a lot of people deeply troubled over relocation of slum displacees. Said Executive Vice President Ira Robbins of Citizens Housing & Planning: "Slum displacees come from the worst areas. If they are not elderly perhaps they are poor credit risks or extra-large families with kids, or Negroes. They can't pay substantial amounts under the table (to get into vacant apartments). Putting relocation in the hands of private developers isn't good policy. As it is now, some New York relocation is fine. But in other places tenants get shuffled around. There's no uniform policy of paying moving expenses, the overlap of a month's rent, and no care about the standards of where they move. You're more likely to get a decent job if an official agency handles it."

Renewed outcry. Fighting for its beliefs, Robbins' CHPC demanded a two-month halt by the city in approving new slum-clearance projects. It charged that the city was showing "blithe disregard for the needs of displaced families," warned that such policy "will only accentuate the developing crisis, accelerate the spread of blight, and in the long run defeat the efforts to clear slums." In general, city officials steamrolled past the housers' objections, went on approving Title I projects.

The hue and cry over relocation reflected another aspect of building issues, too: it is one of the most potent arguments left for more public housing. To this, opponents of public housing like Builder-Realtor Fritz Burns of Los Angeles have this answer: so many US families move every month (40,000 in Los Angeles County alone) that the injec-

tion of a few thousand slum displacees "should be hardly noticeable in the over-all picture." Statistically, it appears unanswerable. Census figures, unfortunately, do not correlate migration with income levels.

Slums gaining. The relocation report in New York went further than most official utterances do toward identifying relocation and slum problems with minority groups. Citizens Housing & Planning went a lot further. It announced results of a survey that documented what realty men and housers alike admit: a Puerto Rican and Negro influx (chiefly Puerto Rican) is helping turn the west side of Central Park—not long ago one of the city's finest residential sectors—into a slum at dazzling speed. The symptoms were familiar: legal and illegal conversion of brownstone flats to accommodate more and more families in less and less space; a Department of Housing & Buildings with procedures so "antiquated" that researchers could not make a "thoroughgoing check" of pending violations against buildings in even the single census tract (177) under study. Yet the eight-block tract showed a 36% jump in family dwelling units since the 1950 census, with "virtually no new building." Since the 1950 census counted 1,045 Puerto Ricans in the eight blocks, their ranks have swelled to some 6,000. Thus, CHPC found, the deterioration results directly from the "great influx and crowding."

Too late the recession? Many students of the problem think the No. 1 reason for the postwar wave of Puerto Rican and Negro immigrants has been the easy availability of jobs. Indeed, the Puerto Rican department of labor's office in Manhattan this month reported the other side of the equation. It said the tide of Puerto Rican migration turned last October; in the last three months, 25,057 more Puerto Ricans returned to their island

than came to the mainland. Reason: unemployment in the US. Only three times before, since 1908, has this happened—always amid rising unemployment.

Puerto Rican officials debunk the widely held theory that easy relief in New York (there is, in effect, no residence requirement) contributed much to the migration. While some 6 to 7% of New York Puerto Ricans were on relief last year, they assert that is not bad for a recently arrived group starting up the economic ladder. It compares with 3 to 4% of the city's total population on relief.

Others disagree. In Chicago this month, Welfare Commissioner Alvin E. Rose noted that transients including hundreds of Puerto Ricans were flocking into the city and seeking relief. He planned, instead of handouts, to pay fares home for unqualified transients. "We can benefit from the example of New York," he said.

Land, lots of land. Would the slump in jobs and business turn the tides of migration across the US that had intensified rot in old city neighborhoods? It was too soon to tell; but popular demand for cities to use their policing power to prevent new slums from forming was clearly on the rise when a pro-public housing group like CHPC took a firm stand in favor of conservation.

The first job was to end the present overcrowding. More and more building men are coming to agree with the formula of Chicago's James Downs Jr. who said recently the only hope is "moving families from jammed slum areas directly to outlying areas where adequate housing must be provided."

NAHB's Yates Cook, meeting with officials in city after city to stir action for slum rehabilitation, was putting it in similar vein. Said he: "If you won't make some land available for your Negroes to live on, you can't say you are doing a thing about slums."

Stuart Weiner



Subdivision to use student-designed home-show house

Architecture students at Arizona State College designed and built this \$16,000, three-bedroom house for last month's Phoenix Home Show. The result was so attractive that Miss Lucille Preston, a contractor, made a deal with the school for the students to erect another model on one of her lots, and let her use the design for a forthcoming subdivision.

In the home-show model, the composition

board roof was omitted to admit overhead light from the state fairgrounds building. The house uses no plaster at all. Ceiling lighting will be bulbs or fluorescent tubes behind glass in a recess of the exposed rafters—a system which Architect Mel C. Ensign, head of the college's architectural division, also likes to use in \$85,000 Phoenix homes, although he thinks it is one of the cheapest systems going.

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EVENTS

Associated General Contractors, annual convention, **Mar. 1-4**, Statler Hotel, Los Angeles.

American Bankers Assn., annual savings and mortgage conference, **Mar. 2-3**, Statler Hotel, New York City.

Indianapolis Home Show, **Mar. 12-21**, Indiana State Fairgrounds, Indianapolis.

California International Home Show and builders' market week, **Mar. 13-21**, Exposition Building, Oakland, Calif.

Northeastern Lumber Manufacturers Assn., annual convention, **Mar. 18-19**, Statler Hotel, New York City.

Southern Homes Show, homebuilding and house furnishing exposition, **Mar. 22-26**, in Greenville, S.C.

Prefabricated Home Manufacturers Institute, annual meeting, **Mar. 29-30**, Sherman Hotel, Chicago.

Mortgage Bankers Assn., Eastern mortgage conference, **Apr. 12-13**, Hotel Commodore, New York City; Western mortgage conference, **Apr. 16-17**, Brown Palace Hotel, Denver; Southwestern mortgage clinic, Paradise and Jokake Inns, Phoenix; annual convention, **Sept. 27-30**, Conrad Hilton Hotel, Chicago.

Midwest Conference of Building Officials and Inspectors, eighth annual school for building inspectors, **Apr. 12-16**, Washington University, St. Louis, Mo.; annual conference and business meeting, **Sept. 20-22**, Hotel Commodore Perry, Toledo.

Western Mountain District, American Institute of Architects, annual conference, **Apr. 22-24**, La Fonda Hotel, Santa Fe, N.M.

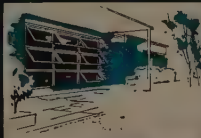
National Savings & Loan League, annual meeting, **May 3-5**, Jung Hotel, New Orleans.

National Association of Mutual Savings Banks, annual convention, **May 10-12**, Edgewater Beach Hotel, Chicago.

Royal Architectural Institute of Canada, 47th annual assembly, **May 11-14**, Mount Royal Hotel, Montreal.

Architectural League of New York, "Building Your Home, 1954," public exhibition to demonstrate progress made in housing and residential architecture and in building materials, **May 22-29**, at the 42nd Infantry Division Armory, 34th St. and Park Ave., New York City.

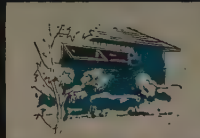
National Housing Conference, **June 7-8**, Statler Hotel, Washington.



Arrangement of Awning Units joined together.



Picture Units can be placed end to end as well as over other Units.



Ribbon Illustrating Awning Units. Two or more units can be placed end to end.



Awning Units can be stacked over Hopper Units flanking Picture Unit.



Awning Units become Case-ment Units when placed over Picture Units.

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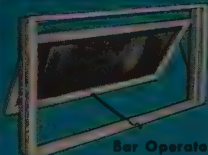
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14"	M. O. 1'-9 1/2" R. O. 1'-8 3/4"	M. O. 3'-4 1/2" R. O. 3'-3 1/2"	M. O. 4'-11 1/2" R. O. 4'-10 1/2"	28"	3'-0" 2'-9 1/2"	3'-0" 2'-9 1/2"	4'-0" 3'-9 1/2"	4'-0" 3'-9 1/2"	6'-0" 5'-9 1/2"	6'-0" 5'-9 1/2"	8'-0" 7'-9 1/2"
18"	M. O. 2'-1 1/2" R. O. 2'-0 3/4"	M. O. 4'-0 1/2" R. O. 3'-11 1/2"	M. O. 5'-11 1/2" R. O. 5'-10 1/2"	36"	3'-8" 3'-5 1/2"	3'-8" 3'-5 1/2"	4'-8" 4'-10 1/2"	4'-8" 4'-10 1/2"	6'-8" 6'-10 1/2"	6'-8" 6'-10 1/2"	8'-8" 8'-3 1/2"
22"	M. O. 2'-5 1/2" R. O. 2'-4 3/4"	M. O. 4'-8 3/4" R. O. 4'-7 1/2"	M. O. 6'-11 1/2" R. O. 6'-10 1/2"	44"	4'-4" 4'-1 1/2"	4'-4" 4'-1 1/2"	6'-4" 6'-2 1/2"	6'-4" 6'-2 1/2"	8'-4" 8'-2 1/2"	8'-4" 8'-2 1/2"	10'-4" 10'-3 1/2"
<p>HEIGHT INFORMATION INCLUDES SASH</p> <p>RIBBON—MAY BE AWNING, FIXED OR HOPPER</p> <p>DOUBLE STACKED—MAY BE AWNING, FIXED OR HOPPER</p> <p>TRIPLE STACKED MAY BE AWNING, FIXED, HOPPER OR MIXED</p> <p>*FIXED PICTURE UNIT WITH HOPPER BELOW—MAY BE COMBINED WITH TRIPLE STACKED</p>											

FOR EACH ADDITIONAL UNIT IN HEIGHT, ADD FOR 14" GLASS 1'-4 1/2", FOR 18" GLASS 1'-10 1/2", FOR 22" GLASS 2'-2 1/2".
 *10" DETACHABLE PICTURE STRIP—SUBTRACT 3 1/2" FROM R.O. HEIGHT—2 1/2" FROM R.O. WIDTH.
 *NOTE: FIXED PICTURE UNITS ARE MADE IN 2 SIZES ONLY, EQUAL TO 2 UNITS 44" x 18" OR 44" x 22" STACKED IN HEIGHT.



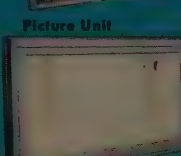
Bar Operator Unit
(Awning type)



Picture Unit



Locking Handle Unit
(Hopper type)



Fixed Unit

MATERIAL: Ponderosa Pine toxic water repellent treated.

GLAZING: Sash are clamp glazed with SSB glass. Removable bead to reglaze when necessary. Double glazing panels. SSB glass with aluminum surround. Picture unit glazed 1/8" thick glass through 3/4" insulating glass.

SCREENS: Wood (see material) with aluminum wire cloth alternate: Aluminum framed screens available.

WEATHERSTRIP: Anodized special alloy aluminum.

HARDWARE: Friction Slide Hinge, Bar Operator installed, Locking Handle, etc., in envelope.

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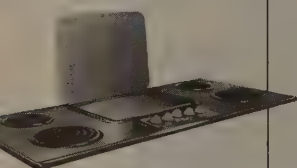
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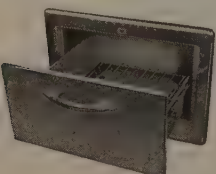


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LETTERS

NEEDED: COORDINATION

Sirs:

The Oct. '53 issue of *HOUSE & HOME* "dedicates" 68 pages to architects, builders, bankers, realtors, planners and public officials. You give several reasons for the cause of blight but omit the principal reason—the materials and labor are so poor that the maintenance cost is so high the owner cannot afford to pay it and keep up his mortgage payments.

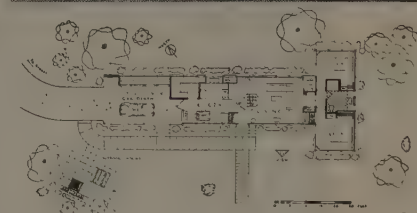
Your dedication is to six groups who do not represent the full list of those who furnish specialists. "Builders" may include separate contractors—each knowing his own business and knowing little, and caring less, about the others. There is no coordination from research to the selling of buildings—no industry. Where is the research for a coordinated structure? Are we going to allow the pressure groups to wreck our cities?

T. J. FOSTER
East Northfield, Mass.

MUTUAL INTEREST

Sirs:

We enclose a copy of our inmate publication, *The Atlantian*, in the hope that you will find it interesting, especially in connection with our architectural drafting class. Because of your work in this field, we feel that we have a mutual interest.



Contemporary solar house—1954

We began this class about ten months ago to train men to qualify as architectural draftsmen upon their release. To teach our students some of the details of modern design, we felt that the construction of a model home would be in order. "Your Contemporary Solar House—1954" shows the results of this project.

The many fine articles, suggestions, ideas and advertisements in your magazine have been of great assistance to us in developing what we believe to be a well-balanced training program in architectural drafting.

W. H. HIATT, warden
US Penitentiary
Atlanta, Ga.

continued on p. 74

3-910



The Kay kitchen features electric refrigerator, dishwasher-sink with electric food-waste disposer, and electric range—so that the homemaker can **be modern** . . . **cook electrically!** Each kitchen is designed to save steps and work.

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More builders every day
are installing

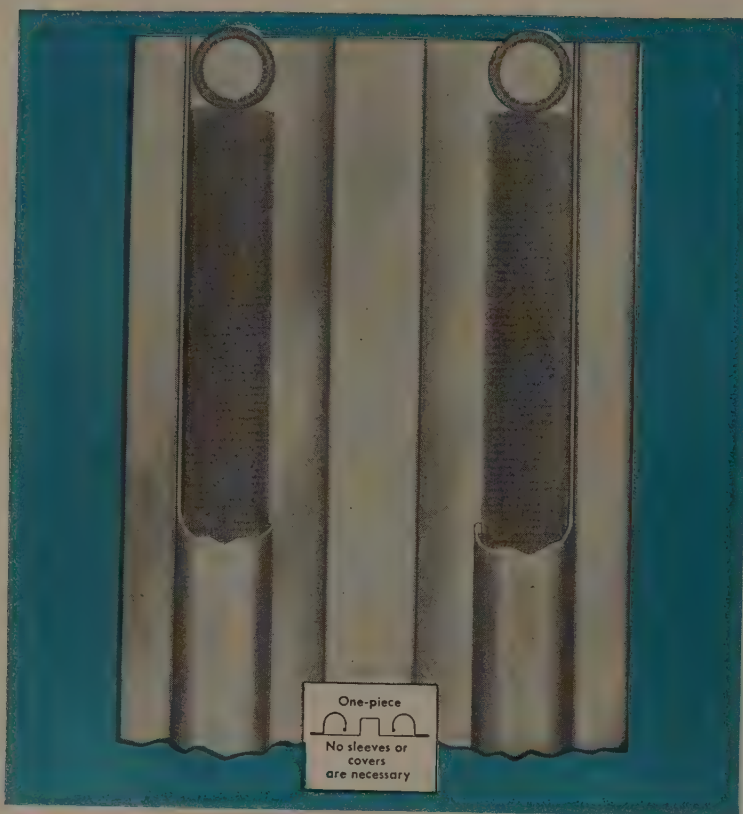
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LETTERS *continued*

UNSIGHTLY SEAMS

Sirs:

In the Jan. '54 HOUSE & HOME, p. 100, I read with interest, but not approval, the following: "Philippine mahogany plywood in 10'-high wall panels is now standard, giving a rich appearance and eliminating the unsightly horizontal seams left by the 8' redwood panels formerly used."

For your own information, there might well have been "unsightly horizontal seams" if the lumber came from a mill which does not own a dry kiln. The use of undried or "air-dried" redwood is a local situation here in California. Freight rates protect the rest of the country from incursion of inadequately seasoned redwood and since HOUSE & HOME is of national circulation it disturbs me somewhat to have the impression carried to the rest of the country that the use of redwood might result in Mr. Eichler's "unsightly horizontal seams."

Just for the record, in Philippine mahogany and redwood of the same moisture content the tangential shrinkage of the mahogany is 2.5 times as great as the redwood and the radial shrinkage 2.69 as great.

PHILIP T. FARNSWORTH, *general manager*
California Redwood Assn.

San Francisco, Calif.

REHABILITATION

Sirs:

... A most practical and significant statement (H&H, Oct. '53), and I should like to put copies in the hands of a number of persons who might read it to advantage.

WILLIAM H. BOOK, *executive vice president*
Indianapolis Chamber of Commerce

NEW SERVICE

Sirs:

I certainly appreciate the fact that HOUSE & HOME has inserted the names of the finance companies. This is very informative and makes your magazine more useful.

GEORGE W. WEST, *president*
First Federal Savings & Loan Assn.
Atlanta, Ga.

SLEEPER DETAILS

Sirs:

We have followed with a great deal of interest your continuing series of details by Harold R. Sleeper.

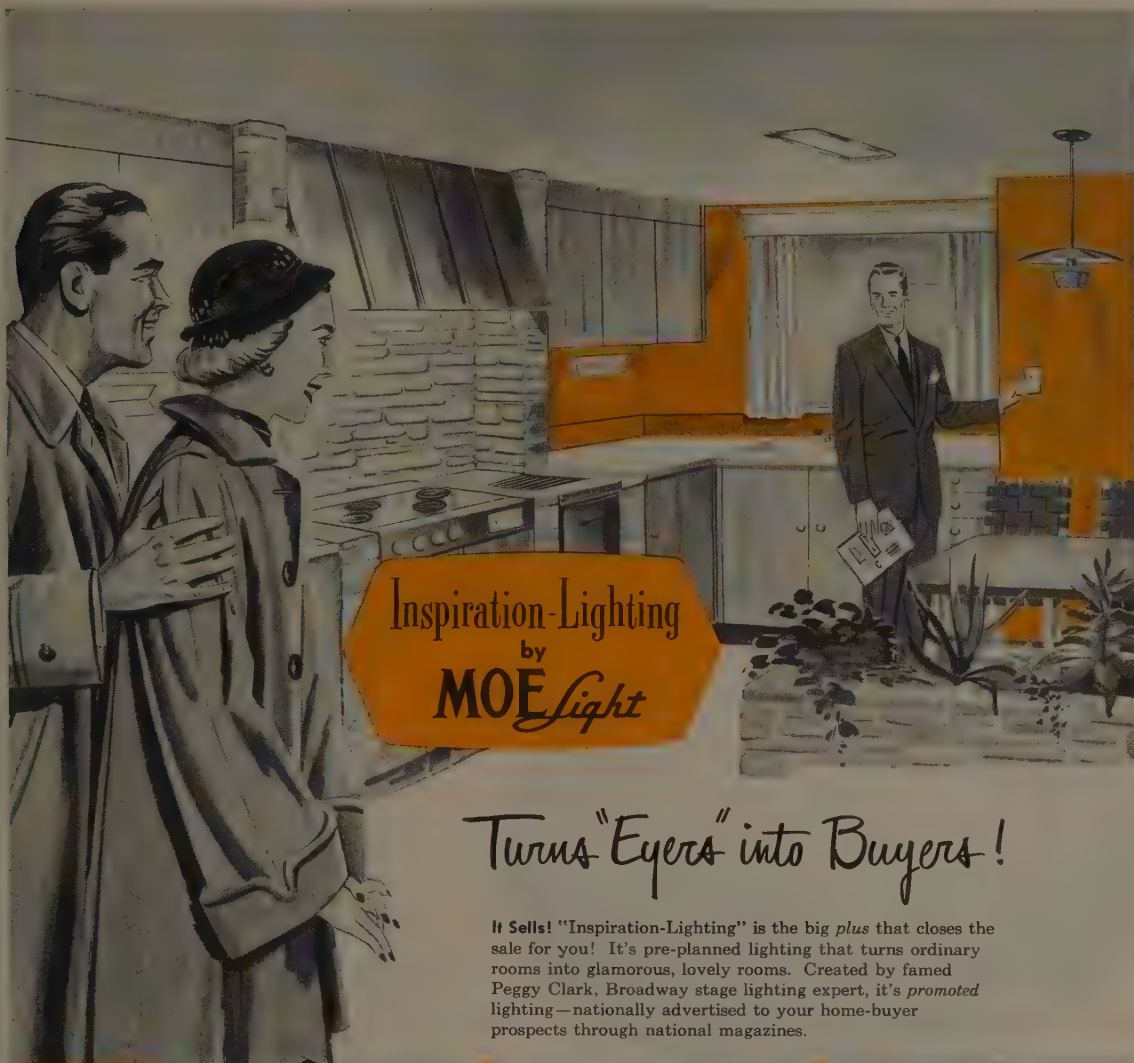
Best of all, the pages have solved many detailing problems for us.

Because we like to file our copies of HOUSE & HOME and prefer not to cut the detail pages out, I wonder if HOUSE & HOME has any plans for making them available in a collected form with a permanent binding?

HERMAN YORK, *architect*
Jamaica, L.I.

• H&H understands that Mr. Sleeper plans to publish his details in book form.—ED.

continued on p. 78



Inspiration-Lighting by **MOE** *Light*

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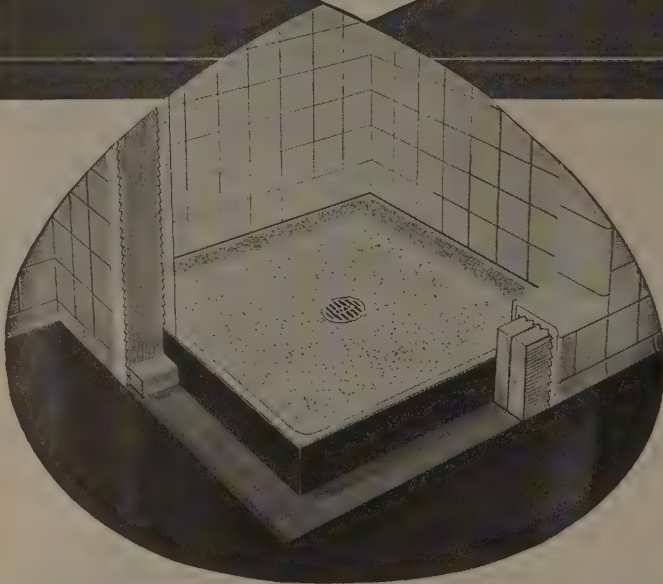
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Please send me your new manual on shower floor construction as
soon as it's off the press.

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HARD ON CHICAGO FHA

Sirs:

You have been much too hard on the Chicago office of FHA (H&H, Nov. '53, News). Our office has been able to work with them very well. Where we have not been able to do as we wanted in design, it has usually been the fault of regulations in the MPR or the conservative ideas of the money lender or the owner.

Too often the unskilled designer complains that his project is disapproved because it is modern, whereas the real reason is inept design, regardless of "style."

Some architects whose traditional things had always been regarded as in good taste will forget the rules of proportion, rhythm, harmony, emphasis and balance when attempting modern.

I am sure the Chicago FHA office will be approving some of the best modern design now that Guy Hollyday has cleared the air on modern design. The next step is a rewrite of the MPR on the basis of performance.

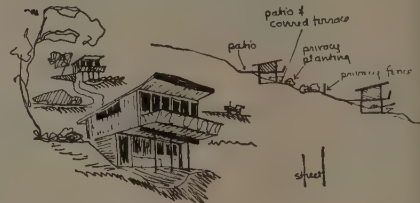
L. MORGAN YOST, *FALA*
Kenilworth, Ill.

• H&H reported the appointment of James C. Moreland to Chicago FHA and the possibility that he might improve the local situation.—ED.

HILLSIDE HOUSES

Sirs:

It seems ridiculous to me to move hillsides around in order to build "ranch houses" (H&H, Dec. '53). This technique seems to be in direct opposition to all good landscape and land planning practice.



Hay's houses on stilts for hillsides

From a landscape architect's viewpoint the land (p. 106) seems ideal for hillside houses, or since it's California, some sort of "stilt" arrangement with the natural contour and coverage (ground cover) left almost completely undisturbed (see sketch). With this type of treatment the savings in the purchase of the land would not be consumed in remarking same. Each house would have a sweeping view rather than one of the typical California walled courtyard of grape stake fence.

There are many good examples in the custom class in the Berkeley and Marin County hills in the San Francisco area and in Seattle of even rougher land that was left untouched

continued on p. 82

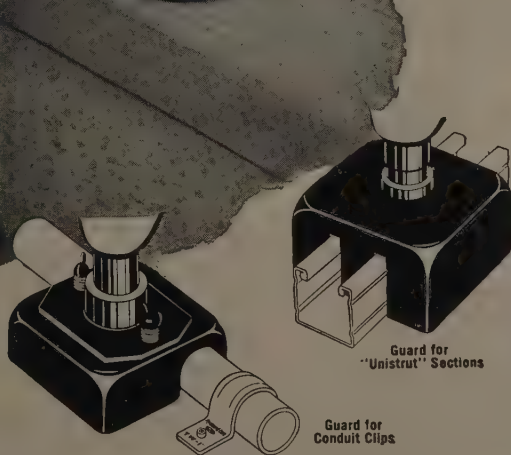
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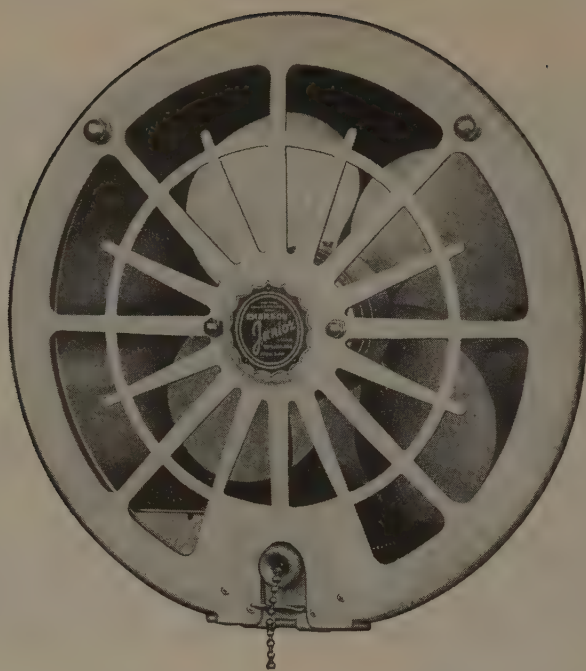
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LETTERS *continued*

by bulldozer. The whole thing seems to me just one more example of the wrong basic houses for a given piece of ground.

GEORGE HAY, architect,
Landscape architect, Media, Pa.

George Hay won an award for neighborhood development at the Jan. NAHB convention.—ED.

TOWEL BARS SELL HOUSES

Sirs:

We find that fixtures contribute a large percentage toward the selling of a house. A house with a modern kitchen and bath is easy to move. Just a few special things even as small as a modern towel bar in the bath will cause the house almost to sell itself. Your magazine is the only one on the market today that carries such a variety of these listed in the advertising. The average person is amazed that such fixtures can be installed for so little cost.

JOE HOLMAN, real estate
Hopkinsville, Ky.

TEXAS LEADS THE WAY

Sirs:

We are currently building Title I, Sec. 8 houses, completed the first group last November, and families are now living in them.



Texas Title I: 720 sq. ft. for \$6,000

These homes (see cut) sell for \$6,000 with a down payment of \$300 and monthly payments of \$47. The Dallas FHA office worked with us in shaping up the house plans, and W. E. Richardson was the local architect. The houses averaged 720 sq. ft. We used concrete slabs and copper plumbing.

The general opinion was that we would lose our shirts. However, by careful construction we cleared \$2,100 on seven houses. We have been giving an unconditional one-year guarantee on every house we have built for the past five years.

These houses are our answer to public housing. We believe that a man would rather own his own home and stand on his own feet, and our sales have proved us right. It is our firm belief that the American builders can do the job, and Texas will lead the way.

S. McCLANAHAN
J & M Construction Co.
Dallas

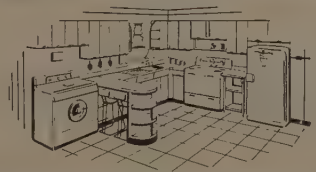
continued on p. 88

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"It's easier to sell houses
from the floor up!"

...that's the beauty
of *Higgins Block*
INC.



The Robert P. Gerholz houses in Flint, Michigan, have gained national attention because of their up-to-the-minute design. Right from the first, these houses have featured the up-to-the-minute flooring, Higgins Block. Besides the lustrous, sales-making richness of texture, look at all the other advantages of this flooring:

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LETTERS *continued*

LOW-COST WIRING

Sirs:

... A most timely and important article (H&H, Nov. '53) ... all utilities should be grateful to you for bringing this to the attention of architects and builders.

In my opinion, this represents the most significant improvement which has been made in residential house wiring for more than 50 years. I feel that it is revolutionary, that its importance cannot be overestimated.

H. P. SLEEPER, operating engineer
Public Service Electric & Gas Co.
Newark, N.J.

HOUSING POLICY REPORT

Sirs:

The supplement (H&H, Jan. '54) is of particular interest to us in our program, and I would very much appreciate your mailing me three copies.

MARIE C. MCGUIRE, executive director
Housing Authority of the
City of San Antonio,
San Antonio, Tex.

LUMBER IN TODAY'S HOUSE

Sirs:

You've struck a great big housing nail smack on the head!

Your accurate appraisal in the article "Why Don't Today's Houses Use More Lumber?" (H&H, Sept. '53) has pointed up a shortcoming long felt but perhaps little recognized in the lumber fabrication field. ...

You will find a wide response to the challenge contained in your study and—because Eugene, Ore. is the lumber capital of the nation, producing 1 billion, 250 million board feet of Douglas timber each year—I can assure you that every effort will be made to cooperate with you.

SAM RODWAY, president
Eugene Chamber of Commerce
Eugene, Ore.

- As the original article pointed out, subsequent articles will explore the significance of new standards of house design for the lumber industry.—ED.

Sirs:

... I heartily endorse your crusade. It is possible that a good deal of the "cutie-pie" house architecture one sees may be attributed in no small part to the stock items of millwork turned out by manufacturers. I would most certainly use the profiles you suggest if I could buy them cheaply from my local dealer.

E. C. GRANBERY JR., architect
New Haven, Conn.

Sirs:

Will be glad to cooperate in any manner possible.

H. J. WORMHOUDT
Wormhoudt Lumber Co.
Ottumwa, Iowa

MODERN MORTGAGES

A monthly report on important developments in the modernization of mortgage credit, with particular emphasis on the expanding potential of the package mortgage, the open-end mortgage and the expandable mortgage.

Eisenhower backs open-end mortgage; Congress writing it into new housing bill

President Eisenhower gave his approval to the proposal for modernizing FHA mortgages with open-end provisions. This was one of the unanimous recommendations of his Committee on Housing Policy and has wider support throughout the entire homebuilding industry than almost any major housing reform that has ever come before Congress. Said the President late in January in his annual Economic Report: "Further steps could be taken to facilitate the repair and modernization of existing structures, by making supplementary advances on outstanding loans more readily available. To this end, means to overcome the technical difficulties of insuring supplementary loans are being studied."

After this presidential nod, action was swift. Representatives of NAHB, MBA, NAREB, the National Retail Lumber Dealers Association and other industry groups conferred with FHA Deputy Commissioner Walter Greene, General Counsel B. C. Bovard and members of the Congressional committees handling this year's housing law changes. It was agreed the technical difficulties were not more than they could master in time for this session's updating of the FHA statutes. For the united front of the homebuilding industry a long-sought victory was near.

Under the legislative provisions being drafted last month FHA open-end reborrowing would be limited to loans for home repairs, improvements, modernization or additions, as the President's advisory committee recommended. Charges, premiums and other terms would be set by FHA under administrative procedures.

MBA for moderate fee. Supplementing the approvals from various homebuilding industry leaders recorded on this page last month, an MBA committee that studied the advisory committee's open-end FHA recommendation urged the MBA governors to give it full approval. Its report:

"The association approves with this comment: assuming that an 'open-end' clause is included in a mortgage, at the time such clause is used and the mortgage amount is increased, there will always be extra work required of the organization servicing the loan. It is the association's recommendation, therefore, that the legislation authorizing such clauses . . . should also authorize the payment by the mortgagor, at the time the mortgage is increased, of a servicing fee of \$25, or 1% of the increase, whichever is greater."

Vast modernization market. One particular reason the advisory committee gave for urging FHA open-ending: it would provide a method so "the average home owner could readily obtain funds to finance modernization and repair or expansion of home properties as his family grows in size or his economic status improves." At the annual MBA-New York University winter mortgage conference, Economics Professor Martin R. Gainsbrugh, who also is chief economist for the National Industrial Conference Board, cited two factors that would give tremendous stimulus to the home expansion and improvement market for many years ahead and thus create a large demand for credit (financing that in many cases might be provided most easily and effectively through open-end mortgage re-advances):

1. In the annual survey of consumer finances made for the Federal Reserve Board by the University of Michigan survey research center, people have been asked: "What major expenditure would you most like to make?" For the last two years the most frequent answers have been "home additions and repairs."

2. Probably the greatest cause of the soaring demand for home additions: the great increase in births of second, third and fourth children. Total annual births have declined only a trifle from their 3,700,000 peak in 1947, said Gainsbrugh, and last year were still 24.8 for each 1,000 persons, compared with only 21 for each 1,000 in the twenties. Since 1947, however, first births have declined from 41.6% to 31.7% of all births, while second children rose from 26.9 to 30.4% (almost matching first births). Births of third children increased from 13.7 to 17.4%.

Smaller FHA losses. One incidental but pointed reason why FHA would profit to modernize its mortgages with open-ending provisions was found in the statistical tables that buttressed the report of the President's advisory committee. (H&H, Jan. '54). On the \$6.5 billion property improvement loans FHA insured over the last 20 years it suffered losses amounting to \$70 million. On the three times greater \$20 billion home loans it insured, secured by mortgages rather than notes, losses were only \$5 million. VA has been covering open-end advances for years.



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33 NEWS

60 EVENTS

68 LETTERS

91 MODERN MORTGAGES

98 A PLANNING LESSON BY FRANK LLOYD WRIGHT

On a rocky point in Carmel Bay, F.L.W. builds a 1,000 sq. ft. house, utilizes every inch of space, caps it with a 3,000 sq. ft. roof.

AIR CONDITIONING

106 What's new in air conditioning?

106 Operating costs are cheaper than you think. To cool \$12,500 Dallas houses cost \$64 in one of the hottest summers.

112 Architect Ensle O. Oglesby Jr. designs an air-conditioned house for Dallas around a skylighted garden.

116 Cooling system uses chilled water to give every room the right temperature in Dallas house designed by Architects Hidell & Decker.

118 Heat pumps provide year-round air conditioning at \$12 a month in houses by Designer Gene Graham for Builder Bruce Wiesemann at St. Petersburg, Fla.

119 NAHB's Research Village will provide case histories of air conditioning.

120 Does air conditioning sell houses?

125 You can have windows without losing cooling.

126 Engineers report new ways to reduce air-conditioning costs.

128 Builders' reports on their experiences with air conditioning.

130 THE CHANGING MARKET FOR HOUSES

FORTUNE reports that people can afford far better homes than they have been buying since the war and will spend more if houses are better.

134 GLASS HOUSE ON STILTS

Architects Rufus Nims and William Jameson solve the problems of capturing breeze and view without sacrificing privacy in a house at Hibiscus Island, Fla.

140 ROUND TABLE REPORT

Builders, bankers and government officials discuss the influence of FHA and VA appraisal policies and practices on the kind of house the average man can buy.

152 NEWS

154 SHC SIMPLIFIED PANEL SYSTEM

It can make every lumber dealer a prefabricator, give builders and architects parts instead of pieces with which to work.

160 DESIGN STANDARDS

Details for builders and architects of builder houses by Harold Sleeper, FAIA. This month: built-up roofs.

168 REVIEWS

186 TECHNICAL PUBLICATIONS

204 NEW PRODUCTS



**"As transparent as the waves,
yet as sturdy as the rock . . .
with the long white surf lines of the sea"**

That is the kind of house I promised my client. This "cabin on the rocks" is not a family house but a haven at the seaside for a single individual living in specific comfort of her own choosing. It is appropriately simple: a little kitchen, guest bedrooms, baths, and a chamber for the mistress of the house.

It is small yet wide open, built around a tall, strong fireplace, overlooking the great Pacific on three sides. Breaking waves often dash up over the windows, which are so constructed that they may be left open in wind and spray.

The roof, in verdigris-color enameled metal, is there to stay, adding a blue-green note to the seascape it falls within. The over-all effect is quiet, and the long white surf lines of the sea seem to join the lines of the house to make a natural melody.

Here is the same old challenge to the architect: expressing the special conditions, the special circumstances. Does not whatever art there is in architecture come from this?

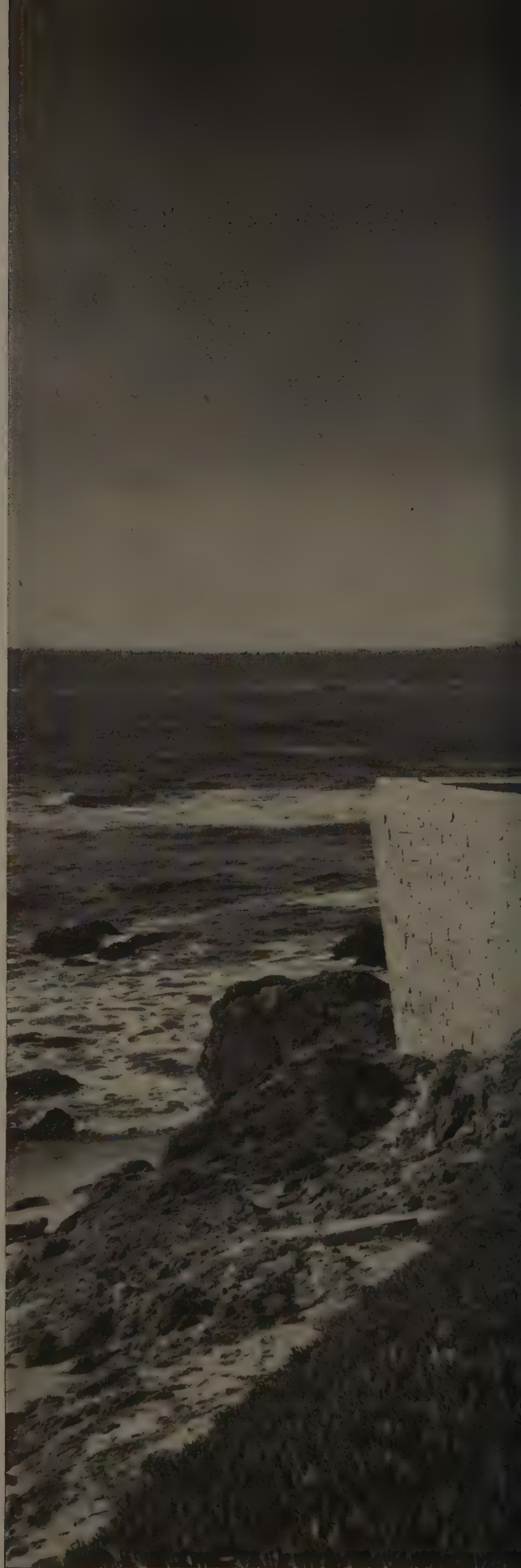
FRANK LLOYD WRIGHT
Taliesin West, February, 1954

LOCATION: Carmel, Calif.

THOMAS D. CHURCH, landscape architect

MILES BAIN, contractor

ROGER STURTEVANT, photographer







A planning lesson from **FRANK LLOYD WRIGHT..**





... how big can a tiny house be?

In this little house Frank Lloyd Wright did far more than achieve drama on a dramatic site overlooking the Pacific. He lavished the infinite pains of genius to fit all the many spaces together so that every inch would count, to make little rooms spacious where spaciousness was needed, to make all the living areas seem bigger than they really are.

Here is an in-line house with three bedrooms, three baths, a kitchen and a 400 sq. ft. living area—all in 1,000 sq. ft.! For some of the ways Wright did so much with so little space, turn the page. . . .

Sparkling, sea-green roof of porcelain enamel tiles is a local landmark. Here it is seen from the southwest terrace (above) and the east-facing entrance (left), where the slanting gate exposes it to view.



A small living room becomes as big as its view . . .

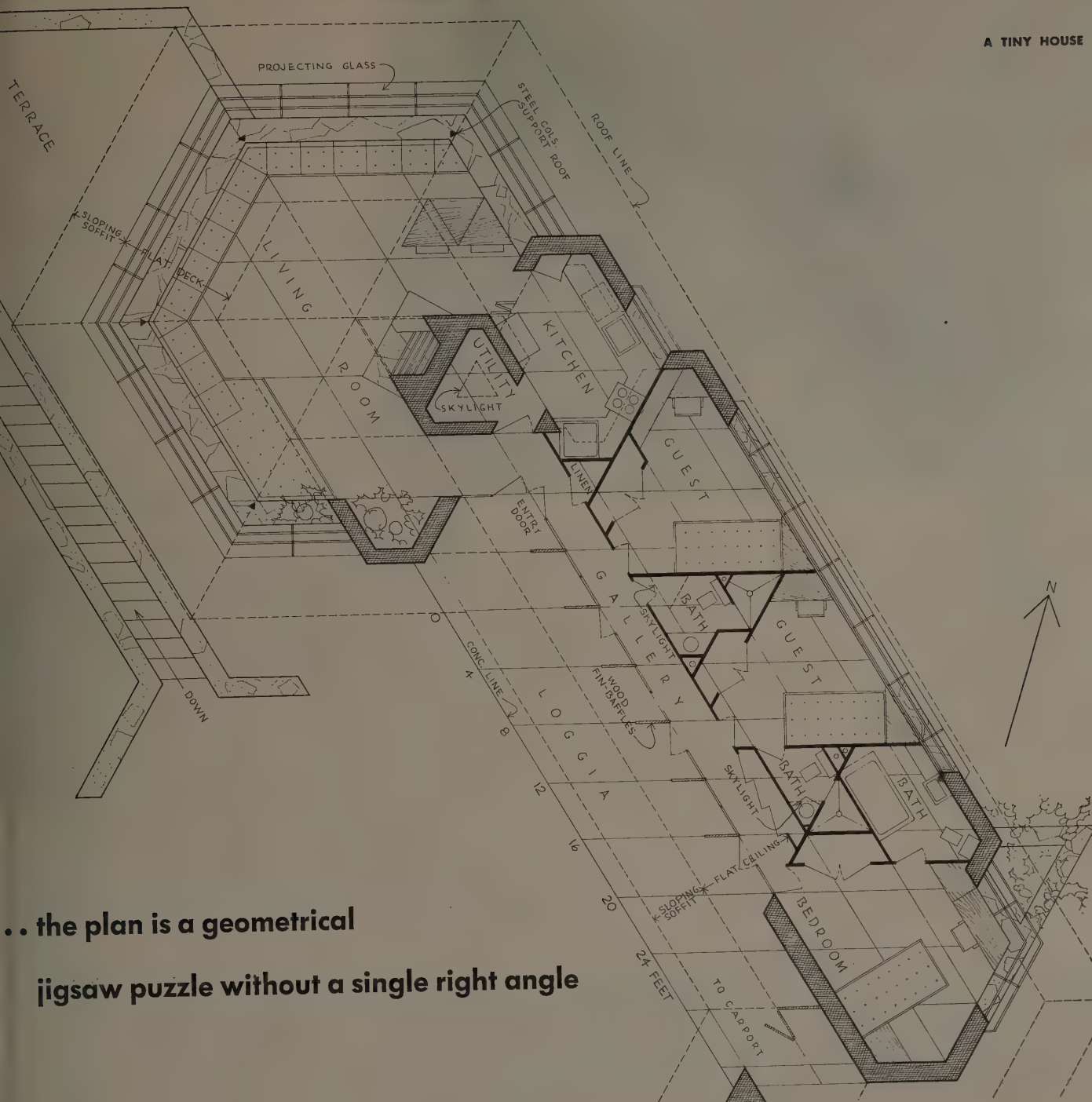
Using as a module a 4' equilateral triangle, or doubling it to make a diamond, Wright constructs strings of little polygonal spaces:



These rooms mesh neatly together in his plan, never meeting in a static right angle, never forming a conventional box shape, which would soon make you aware of how small this house really is. All the way around the outside of the plan the walls come together in wide, 120° angles that liberate the interior spaces, gently molding them into flowing curves instead of constricting them in rigid 90° corners. All the rooms are tiny indeed, but none seems tiny because none is a box. . . .

To gain spaciousness, the window walls of the living room (above) are bent into a sweeping circle of wide angles. Like the bridge of a ship, they scan 180° arc over the stone bow. Stepped-out windows make the top of the room still larger, and the ceiling pulls the eye outside through an almost invisible line where the glass slices directly into the wide overhang. Instead of chairs there is a huge window seat big enough for 15 or 20 people, leaving the limited floor space free. No matter where you sit, you face away from the overpowering view and glare, toward the warm, intimate cave of the fireplace (below).





.. the plan is a geometrical
jigsaw puzzle without a single right angle

Ship's galley, roughly 74 sq. ft., is tucked behind huge chimney. Everything is within easy reach.



In-line plan needs long hall, but Wright saved space by paring it to 30". (Pullman corridor is 26".)

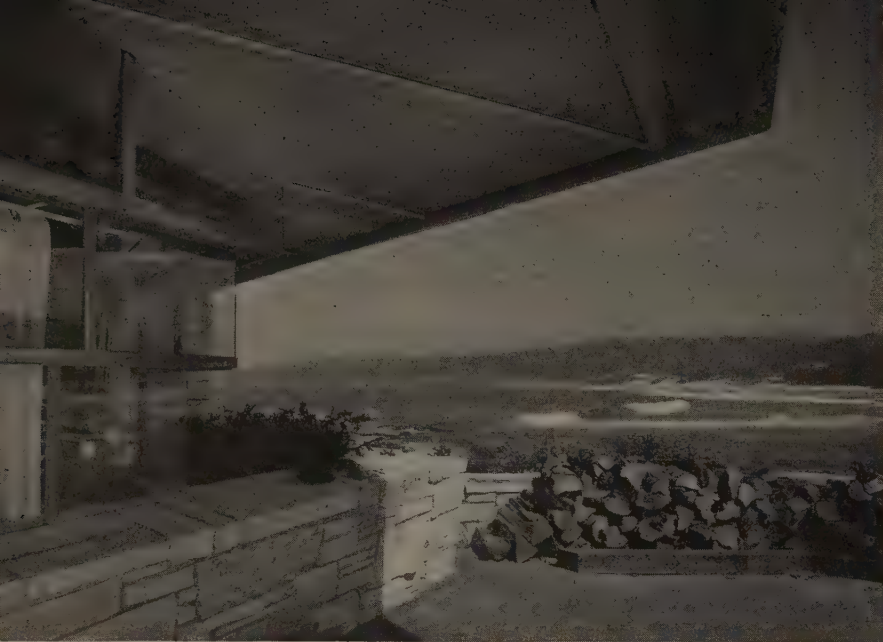


Inside baths, less than 25 sq. ft. each, yield more outside wall space to bedrooms, are skylighted.

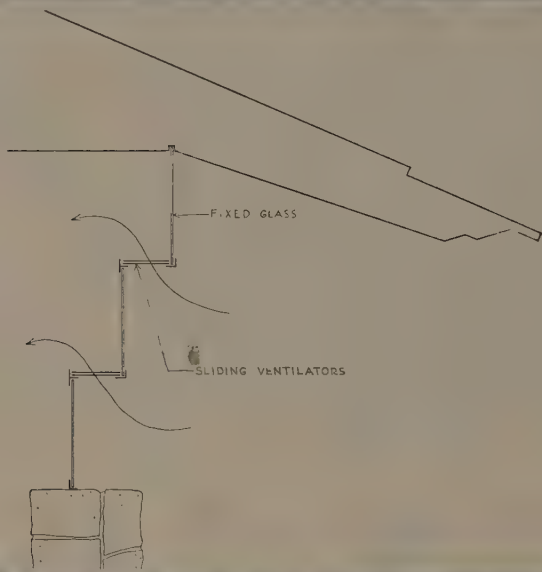


Imagine a window 12' long in an 80 sq. ft. room! Triangular bedrooms give space where it is needed.





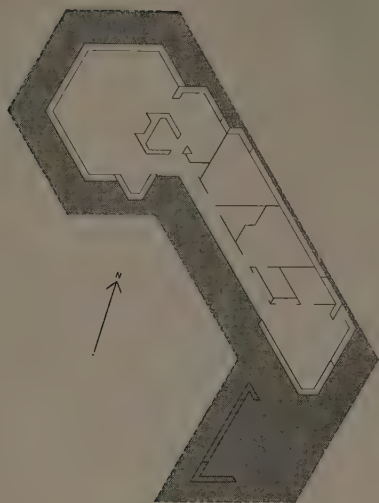
Onto his intricate plan



Broad brim, overhanging the walls by 6' in most places, is pulled down low all the way around to protect the "eyes" of the house, the windows, against intense sky glare, sea spray and driving rain. Stepped-cut sash (shown above at master-bedroom corner) allows dry, closely controlled ventilation through horizontal-sliding boards between steps—even in high wind, water.

Covered walk leads from carport in background to front door, past terrace sheltered in the crook of the plan. Vertical fins of plywood at left act as baffles to keep sun off inside hall.





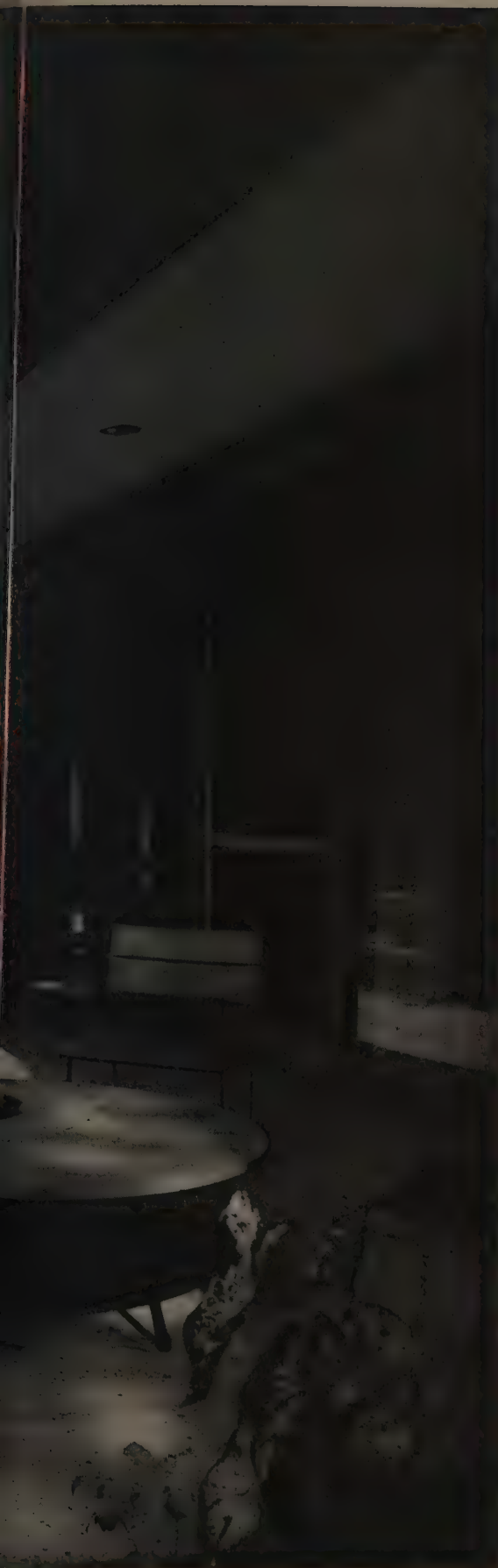
Wright lowers a big, sweeping roof

Oversize roof, with an area of 3,000 sq. ft., is two-and-a-half times the size of the 1,200 sq. ft. house and carport underneath!

Below, sweeping horizontal lines of roof pull together the many angles and jogs of house and carport. Porcelain enamel tiles are 4' triangular "pans" on same module as floor plan, with crimped-down edges fitted into channels on roof structure. Lower edges of some are stamped into patterned rows of dentils.







What's new in air conditioning?

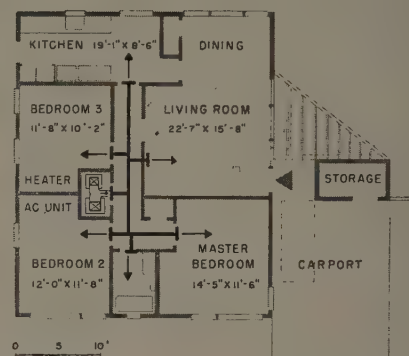
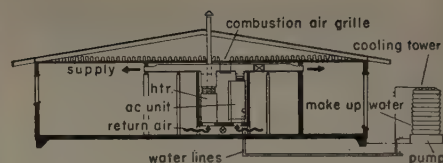
On these 24 pages, the answers:

1. Costs are lower than you think (p. 108).
2. It has an enormous appeal to families (p. 120).
3. There are new ways to merchandise it (p. 120).
4. Engineers know how to produce better cooling (p. 126).
5. You can have windows without losing cooling (p. 125).
6. NAHB's Air-conditioned Village will be a scientific and psychological testing ground (p. 119).
7. Air-conditioned indoor garden can be enjoyed the year around (p. 112).
8. Cooling makes the indoors pleasanter than outdoors in hot weather (p. 116).
9. A water-to-air heat pump can make a lot of sense in certain locations (p. 118).
10. Builders report on air conditioning and sales (p. 128).

Opposite: *this handsome Houston house by Architect Hamilton Brown embodies many sound design principles for cooling. Its stepped-back double overhangs on the south shade both bedroom windows and the living-room window wall. The big trees provide extra shade when the sun is low.*



Ulric Meisel
Typical house has 1,150 sq. ft. floor area, sold for \$12,500 in 1952. Cross-section (right) shows overhead air outlets, central return air grilles.

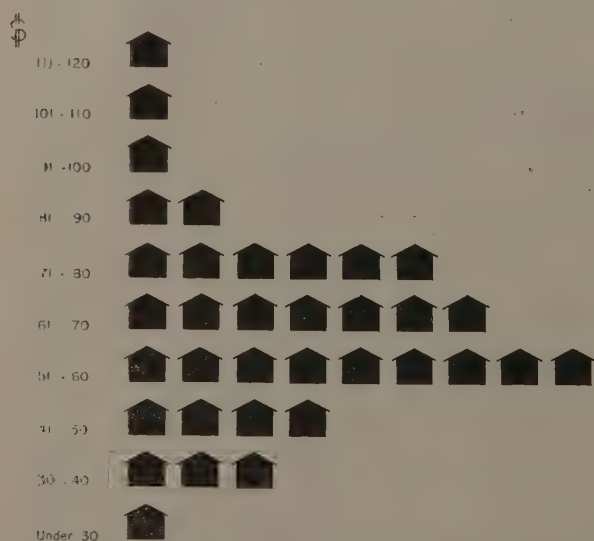


Operating costs are lower than you think . . .

. . . only \$64 per house for five months' cooling

for the second hottest summer on record in Dallas

HOW 1953 COOLING COSTS VARY FOR 35 HOUSES



Total bills for cooling electricity vary from a low \$11.91 for a family that was away two months to a \$111.57 high for a house with big windows facing east and west and a family that likes 68° all summer. More important: 26 bills (74%) ran from \$41 to \$80.

Here for the first time are documented figures on just how low the actual operating costs proved to be in the first low-cost builder houses planned for air conditioning.

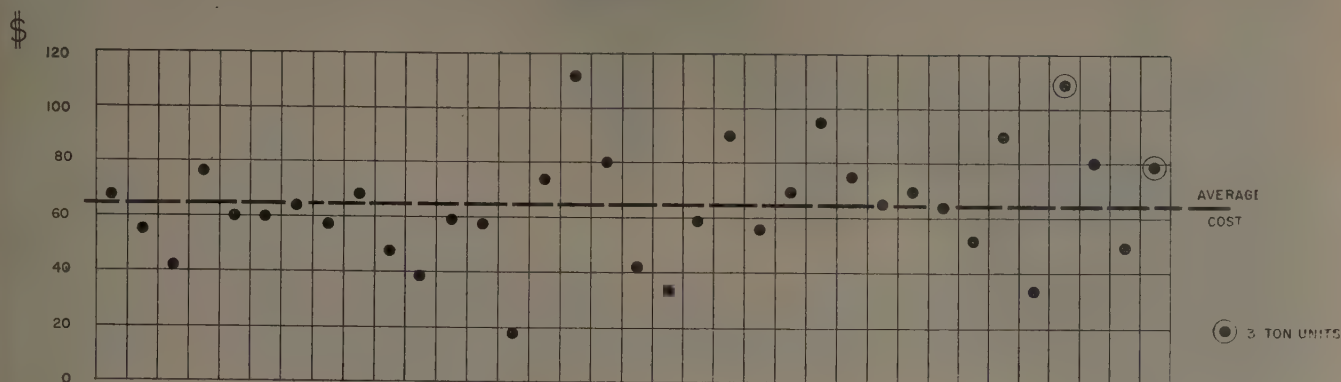
In 1953, second hottest summer in the history of the Dallas weather bureau, a group of 35 families paid average electrical bills of less than \$13 a month for cooling their 1,150 sq. ft. houses. For the whole five-month cooling season these bills averaged \$64.09 per family, according to a study just made by the local electric company. Their water bills for cooling towers were \$2 to \$3 for the entire summer.

Because these figures came from Dallas they have special significance. Dallas is much hotter and much more humid than average US cities, and last summer was a record breaker even for Dallas: the temperature hit 100° or higher on 34 different days. Operating costs for cooling in houses like these would be even lower almost anywhere else.

The \$13-a-month average is so low it should upset FHA-VA insistence that a family have as much as \$100 a month higher income to qualify for a \$12,500 house *with* air conditioning than to qualify for a \$12,500 house *without it*. It is this FHA-VA stand that has discouraged many builders from offering air conditioning.

Of these 35 houses, 29 are like the one above and were built by Lewis & Lamberth or Laughlin & Silver (H&H, Apr. '52). The other six are much the same and were built by Crow & Benda across the street. All but two have 2-ton GE units; the other two have 3-ton units (and had high operating costs).

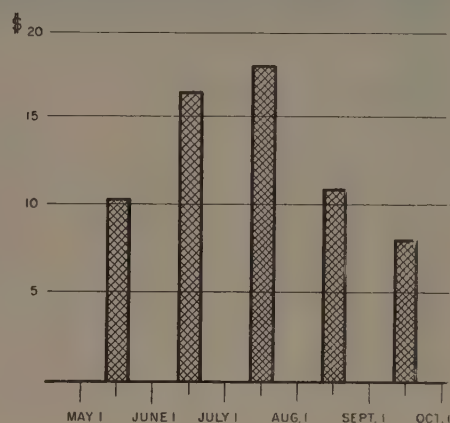
ELECTRICAL BILLS CLUSTER AROUND \$64 AVERAGE



Each dot represents actual electric bill for air conditioning one house. Highest bills were for families who kept temperatures around 70°, had unshaded windows, children running in and out. Water costs averaged \$2 to \$3 per house for cooling towers.

Typical house had cooling bills varying month to month as shown here. All bills are based on Dallas rate of 1.65¢ per kw-h.

COOLING COSTS FOR TYPICAL HOUSE



Operating costs could have been even lower

The impressive \$64 figure reflects great credit on the builders and the engineers from Texas Distributors, Inc., who laid out the system. But the fact is that operating costs could have been even lower if all the big windows had been fully shaded. In general, houses with unshaded east or west windows had highest operating costs.

The builders believed that for sales purposes they should not eliminate west windows and hoped that trees would eventually shade them. In some cases carports shade east or west windows.

All houses have 24" overhangs, 3" mineral wool insulation or the equivalent in aluminum foil in the roof and 2" insulation in the walls. And slab floors make these houses easier to cool than would crawl spaces or basements.

Maintenance costs average \$8 a family

"We've been surprised at the low servicing costs," says Engineer Jack Lowe, president of Texas Distributors. "Families cut them by doing their own work—like cleaning and replacing filters. Many service their cooling towers. We estimate that they are only paying \$8 a summer for maintenance and servicing."

Previous maintenance estimates were high because they were based on large Texas houses where older air conditioners were installed for families who called a serviceman whenever a filter needed changing.

Two tons is enough even in Dallas

Two summers ago, when families were moving into these houses, many Dallas dealers doubted that 2-ton units could cool 1,150 sq. ft. houses with considerable glass. The old rule of thumb—1 ton for every 500 sq. ft. of floor, which perhaps made sense for uninsulated houses not designed for air conditioning—was commonly accepted without question.

Builders and architects everywhere will be happy to learn that 2 tons were enough. "We keep our house at 74° practically all the time," says one owner. "A neighbor across the street only manages 78° when it's real hot. We think one difference is that our cooling tower is on the south where it gets the prevailing breeze and hers is on the north." Another reported: "We're delighted with the cooling. Some of the neighbors griped a bit when 105° weather forced inside temperatures a little over 80. But compared with the awful heat last summer, it was really cool in our houses."

And Builder Laughlin adds: "These are the happiest people we ever sold houses to. They like the design and they are delighted with the air conditioning."

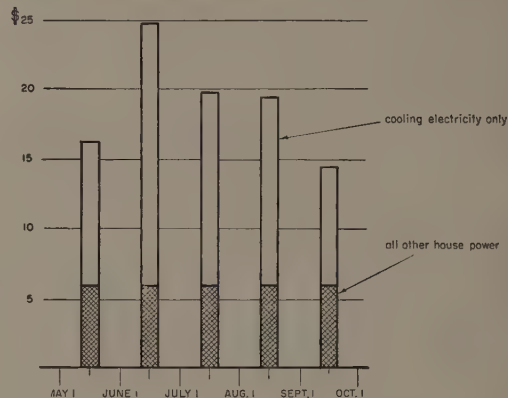
Proof of the pudding

The most significant lesson for architects and builders is that inside temperatures and total electrical bills substantiated the engineers' original estimates and H&H's findings for cutting heat loads.



Cooling costs for electricity were only \$64 for this 1,266 sq. ft. house in Wichita during five extremely hot months last summer—82 days of 90° or more including 45 days of 95° or more and 15 days of over 100°. House has a 3-hp compressor and a remote evaporative condenser for saving water. It was designed by Ned Cole for The Coleman Co., and about 50 copies of it have been built elsewhere. Except for big west windows,

it was designed for air conditioning with 4" ceiling insulation, white roof, wide overhangs. The owners do considerable entertaining. The chart (at the right) shows electrical bills of \$6 per month for household appliances, and an average of \$11.80 for summer air conditioning (at 1.5¢ per kw-h). Actual cooling bills are 26% less than the \$16 a month cautiously predicted by engineers when house was built (H&H, Oct. '52).



Air conditioning costs are low

Total power bills and old houses give false impressions. Operating costs for new houses are low not only in Dallas but also in other cities—lower than most people think because of two common misconceptions.

1. Many people confuse air-conditioning costs with total electric bills, and to make matters worse they remember the highest bill of the summer. They are likely to say their electrical bill is \$25. Word soon spreads that air conditioning costs \$25 a month, or \$150 a year. A family living in the Wichita house above had one bill for \$25, but of that, \$6 was for other household electricity and only \$19 for air conditioning. The \$19 was for the hottest month and total air-conditioning electricity for five months was \$64.

2. Many people believe that operating costs are as high in new houses as they are in old houses. Generally the first houses to be air conditioned were old and large. Word gets around that so-and-so pays \$50 a month to run his cooling system, and perhaps he does. But a sprawling house, often uninsulated and with loose-fitting windows, is quite different from a house designed and insulated specifically for air conditioning. Any house that requires a 10- or 15-ton cooling system is obviously going to have high cooling bills.

Operating costs will be high even in new houses if they are large and disregard the design principles which make for economic operation, have large unshaded windows or inadequate insulation. The following cost data, selected from half a dozen cities, emphasize how proper design can keep operating costs low.

Water is a cost factor but not a large one. Only if water is cheap should it be thrown away. Otherwise a cooling tower, an evaporative or an air-cooled condenser should be used to save water.

Typical new house costs:

\$9 per month in Sterling, Ill. Electrical bills for air conditioning a 1,275 sq. ft. house last summer were less than \$9 a month. It was designed for air conditioning with a light roof, overhangs, insulation and has a 3-ton unit with an evaporative condenser.

\$11.13 in Dayton. In a story-and-one-half house of 1,256 sq. ft. the electrical bill for three months of cooling last summer was \$33.40, or about \$11 a month. The family has a 3-ton unit, did quite a lot of entertaining.

\$17.75 in Columbus. In a 1,400 sq. ft. house, a 2-ton air conditioner was operated for four months last summer for \$71—a monthly average of \$17.75.



Don Wallace

Fort Worth house holds low-cost cooling record

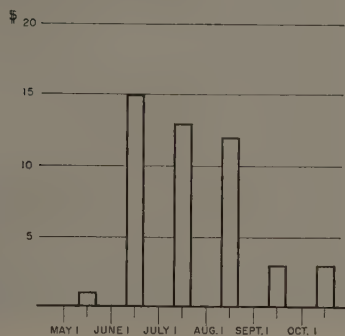
This trim, 1,750 sq. ft. house in Fort Worth cost its owners \$49 all told for complete summer air conditioning with a standard 3-hp unit, despite 29 days of 100° or hotter. Of this, \$47 was for electricity (see chart left), \$2 for cooling tower water.

The house is an object lesson in how first-rate design for cooling pays off. And it makes the point that a flat roof and floor-to-ceiling windows—normally two immense sources of heat—*can* be incorporated in air-conditioned houses. The flat roof is fortified with over 7" of insulation: two 3 $\frac{5}{8}$ " blankets layered back to back over the ceiling. Over the insulation is a 2 $\frac{3}{4}$ " air space, built-up deck and white marble-chip roof. Walls have 3 $\frac{5}{8}$ " insulation and the entire house is enveloped with a foil vapor barrier (around the insulation) which reduces the humidity load on the compressor effectively (see p. 126).

Hot sun through the big glass areas on the southeast and southwest is minimized by wide 4' overhangs. Equally important, the owner religiously keeps inside bamboo blinds fully drawn across these windows when the early morning and late afternoon sun strikes under the overhangs.

These features for cooling pay off in winter, too. Heating runs under \$40 a season so the house is fully air-conditioned the year round for less than \$100.

Credit goes to local Designer Jack Schutts and to the local York air-conditioning distributor, Engineer A. W. Stubbeman, who built this house for himself.



Big window in front faces southwest; window wall on right faces southeast. Actual monthly costs for cooling electricity (above) are based on Fort Worth's lowest block: 2¢ per kw-h—about average for the U.S.

throughout the country

\$18.70 per month in Tampa. In a 1,100 sq. ft. house a 2-ton cooling unit was operated for four summer months at a cost of \$18.70 per month. This house has 52 lin. ft. of glass in its west wall which boosted operating cost; and Tampa's high humidity is another cost-raising factor.

\$25.42 in San Antonio. Electrical bills for operating a 2-ton unit in a 1,100 sq. ft. house were \$77.54 from May 27 to Sept. 1, or 82¢ a day for an "unusually" hot summer. The family consists of three adults and two children.

\$14.58 in Houston. Six months of cooling a 1,100 sq. ft. house occupied by two people and a dog cost \$87.48, or \$14.58 per month. This house has a 3-hp unit.

\$21 per month for a larger Houston house. A big two-story house of 2,000 sq. ft. with a 3-ton unit and two in the family cost \$126 for six months, or \$21 per month.

\$23.40 per month in Houston. Summer bills for five months of cooling were \$117, or \$23.40 per month. There are four in the family plus a dog. A Chihuahua would not add much to the cooling load, but a pair of St. Bernards romping in and out all day can let in more heat than a big west window.

How much is gas air conditioning?

Gas air conditioning is also cheaper than you think, but just how much cheaper depends on gas rates, which fluctuate widely according to the availability of natural gas.

Air-conditioning engineers say the break-even point for using gas air conditioners is around 80¢ to 90¢ per 1,000 cu. ft. of gas. Up to that point, gas is cheaper than electricity. The natural gas rate in Houston is on a sliding scale and users of gas air conditioning pay an average of 50¢ per 1,000 cu. ft. The Houston United Gas Co. advises that, based on operating costs in many houses, an average 5-ton unit can be operated all summer for \$100, and a 3-ton unit for \$70, including electricity.

In Dallas where the gas rate is 75¢ (about the same as in many towns in the North), the Lone Star Gas Co.'s records show that a 3-ton unit operates for \$85 and a 5-ton for \$125 for the summer, including electricity. Electricity to run the fan and pump of a gas air conditioner costs about 35% of the total operating bill.

Most gas units are in large houses where costs tend to run higher per square foot than in small houses. It is probable that these operating costs would be lower if houses were more compact and were carefully detailed for air conditioning.



You can live with a sunny indoor garden...

This may be the first house ever air conditioned around an indoor garden.

On cool days the skylight lets in sunshine to warm the house and grow the plants. On hot days blinds outside the skylight can be closed, and their reflective aluminum shutters turn back most of the sun heat before it can get through the glass.

All the rooms are sealed with fixed windows against outside wind, dust and weather, and faced in toward the cheerful, spacious patio (shown above). In summer the house is cooled by a 5-hp unit; in winter it is warmed by radiant-ceiling heat and ventilated by the cooling unit's blower. Result: complete control over climate, sunlight and view.

LOCATION: Dallas, Tex.

ENSLIE O. OGLESBY JR., architect

C. V. SUMNER, contractor

TEXAS REFRIGERATION & ENGINEERING CO.,

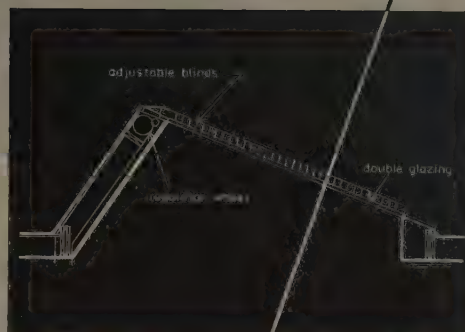
heating and air conditioning

Center-court plan, as old as the Greek peristyle or the Roman atrium, is compact yet unusually spacious inside. It provides excellent circulation, creates inward views.

Greenhouse garden brings planting inside where it thrives under controlled conditions, and where it can be enjoyed night and day from surrounding rooms. Dining space and traffic areas around plant bed are floored in tough, washable ceramic tile.

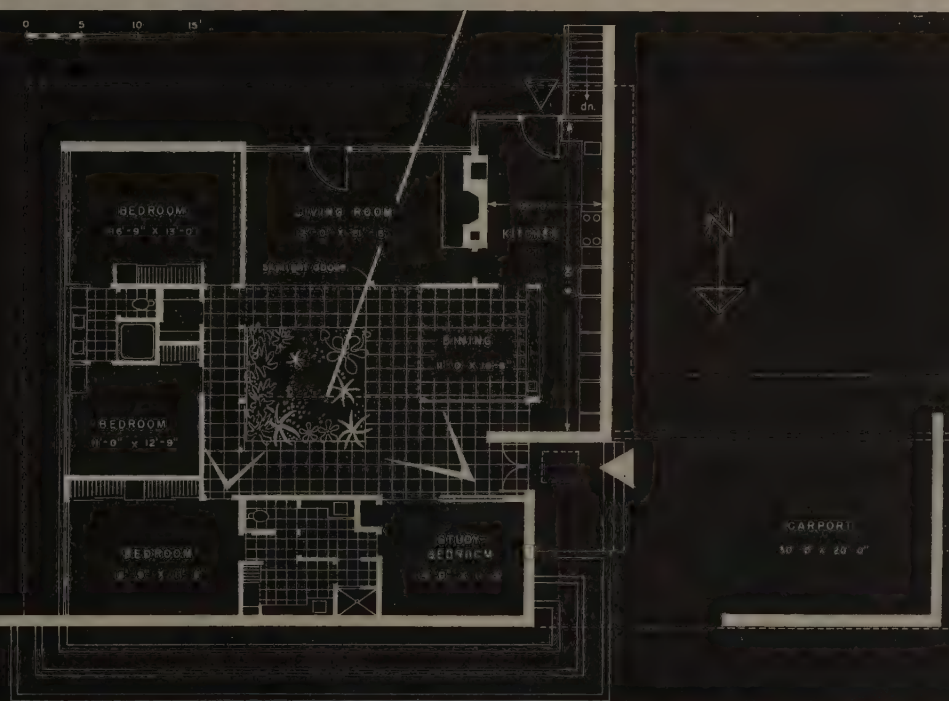
Skylight (right) faces south for winter sun; motor-adjusted aluminum blinds outside the double glazing stop hot summer rays. Ceiling lights make the garden dramatic at night.

Plastic screens (below) slide shut to form a private, well-lighted bedroom hall.



Photos: Ulric Meisel

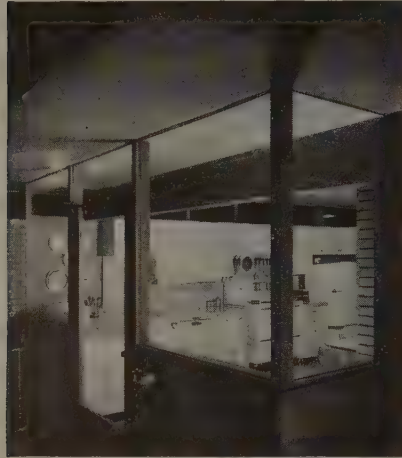
you control the skylight with outside blinds



1. South overhang 6' wide keeps high summer sun off living room's floor-to-ceiling glass. Where kitchen juts out (left) sun line falls on solid wall panels.

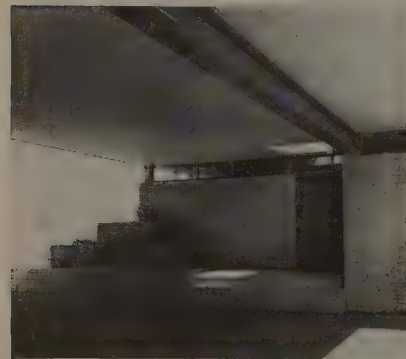
2. Shade tree also helps keep sun off dining terrace and kitchen walls.

Small photos: Ulric Meisel



3. Reflective ceiling insulation (2-ply aluminum foil with three air spaces) bounces back 95% of the long heat waves reradiated from underside of roof. Missing: an air wash through vents in overhang to dispel heat which builds up in narrow roof space. Reason: owner wanted radiant pipes installed in the ceiling for winter heating.

4. Kitchen fan directly over range, with cabinet acting as hood, quickly pulls out cooking heat and moisture at its source before it overloads cooling system. Other aids: ceiling fans in toilet compartments of both bathrooms, clothes drier vented to outside.



5. Carport on west shades walls and front entrance against broiling afternoon sun.

6. High strip windows are shielded by roof overhang almost until sunset.



These ten design measures lighten

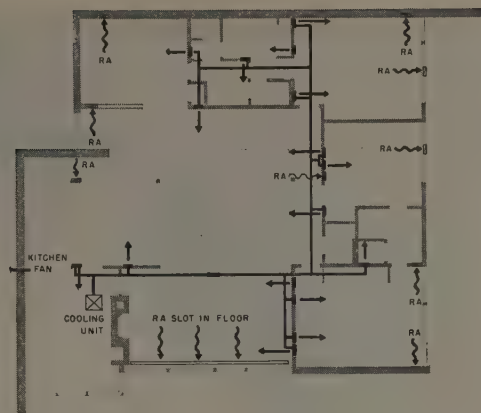


7. Fixed double glazing throughout the house seals it against constant menace of blowing dust, cuts conduction of air heat through window areas by 40%, saving on both heating and cooling bills. Only openings to outside are front door, kitchen and living-room doors on south side (above).

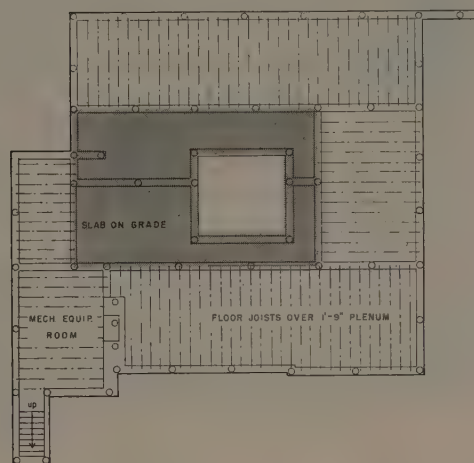


8. Brick cavity walls with insulation make good temperature barriers. Here master bedroom presents such a wall to cold north winds. Glassy east wall (also shown at right in photo below) was designed before it was known that morning sun adds as much heat to a house as afternoon sun from west. On hot mornings bedrooms heat up to 74° when west side is 70°; by afternoon reverse is true. Desirable: shading devices, a zoned cooling system.

the cooling load . . .



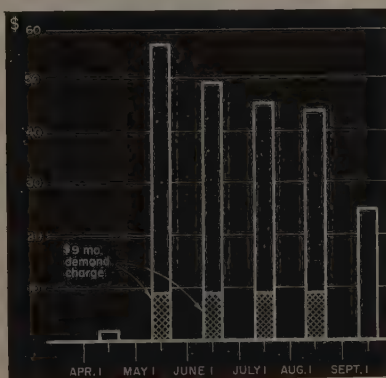
9. Insulated supply ducts under floor are protected from warm return air by a 1" wrapping of aluminum-covered glass fiber. Ducts rise inside partitions to high wall registers (straight arrows); return air grilles (wavy arrows) are at floor level.



10. Vapor membranes under floor boards and center slab seal out ground moisture which would add to compressor's work. Note how crawl space around perimeter of house is used as a return air plenum. Cooling tower of induced-draft type is located in partial basement with other cooling and heating equipment. Kept from freezing in winter by being inside, it does not have to be drained in fall and filled in spring, is ready to work in winter warm spells.

. . . yield these lower operating costs

Results of proper design: a compact, sealed house whose 2,500 sq. ft. can be cooled down from 100°-plus to 72° by a 5-ton unit, despite extensive glass areas. Cost of cooling alone is shown in chart (right). Owners report year-round comfort, fewer colds, much less dusting and cleaning required.





This terrace is seldom used because . . .



A 5-hp air conditioner cools the 2,300 sq. ft. house. Despite the fact that the Blums do a great deal of entertaining, their operating bills for six months last summer averaged \$32 a month, low because of insulation, overhangs, shading.

That air conditioning is bringing new ways of life in hot climates is demonstrated in different ways every summer. In this low, brick house by Architects Hidell & Decker in Dallas, Owner Herman Blum soon discovered that air conditioning was so pleasant that he and his wife almost never use their outdoor terrace. Not only is it cooler inside but there is also an absence of mosquitoes and bugs. This is a discovery made by many other families in Texas where winter turns into summer so fast that as soon as it is warm enough for outdoor living it is time for air conditioning.

Families also find that the chief value of a terrace is the pleasant view it gives you. When a woman stays indoors all day she enjoys looking out to a patio or garden. But paved areas not only hold heat from the sun, they also reflect it through windows or onto walls. Therefore, a grass area outside big windows is most relaxing to look at and reflects the least amount of heat. In climates where there are spring and autumn seasons when terraces or outdoor barbecues can be used, designers are learning to locate paved areas away from the house to reduce reflected heat.

LOCATION: Dallas, Tex.
 HIDEELL & DECKER, architects
 HERMAN BLUM, engineer and owner

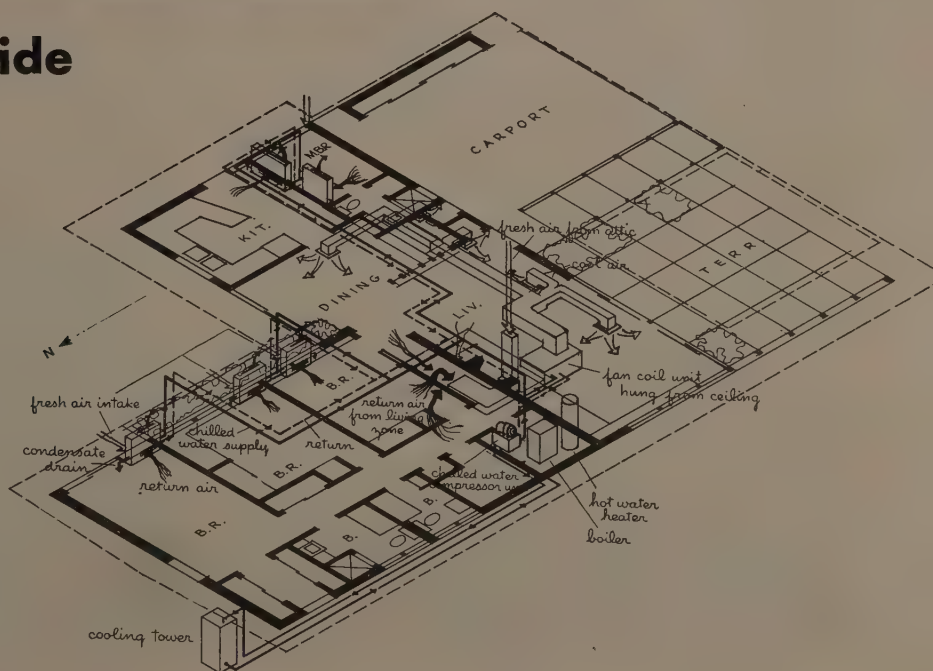


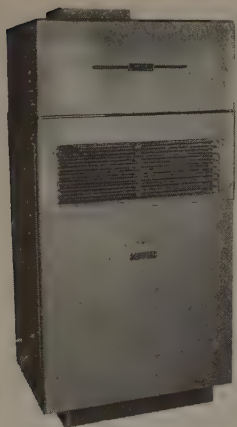
A fan inside each window unit blows filtered air (some from outside) across cooling coil. In winter warm water can be pumped through same pipes from the central boiler. This system costs about 25% more than conventional cooling.

Living room is cooled from overhead grilles by air from an individual, chilled water unit which is over an adjacent utility room. Instead of blowing cool air directly into room, fans force it through ducts for a short distance. This arrangement was made because Blum did not want to put units underneath his living-room windows.

it's pleasanter inside

Chilled water is piped from central unit to window units in most rooms in the same way that many offices are cooled. Engineer Blum installed this system because he wanted to make each room its own zone. To direct more cooling to east side of house in morning, for example, he can use a hand control in east rooms to call for more chilled water. In the afternoon the east rooms can be turned down, other rooms turned up. Diagram shows pipe and duct runs and central compressor.





Compact, water-to-air heat pump is 26" x 35" x 70" high.

New heat pumps provide

year-round air conditioning in Florida houses for \$12 a month



Florida house by St. Petersburg Builder Bruce Wieseemann, Designer Gene Graham, features long, slender design, 1,275 sq. ft. of air-conditioned space for \$17,000. Note how wide overhangs shade windows.

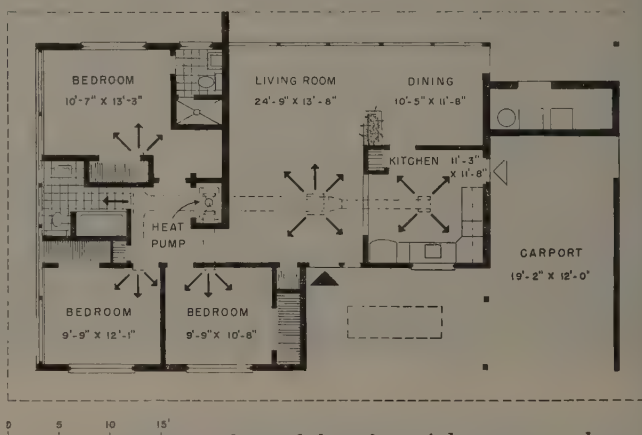
Here is how progressive St. Petersburg Builder Bruce Wieseemann is completely air conditioning the first tract in the US with water-to-air heat pumps in \$17,000 houses. Although the unit is 3-hp size and takes only 6 sq. ft. of floor area, it gives 3-ton cooling capacity in summer and up to 50,000 heating Btu's per hour in winter. Cooling and dehumidification are provided in the usual manner by means of a regular Freon compressor and conventional ducts as shown on the right.

The switch over to the heating cycle is automatic and warm air is delivered through the same ducts. During temperamental spring weather it is not unusual for these units to cool and heat alternately in response to hot days and cool nights.

Well water provides heat and cold

As this type of heat pump needs a constant supply of water Wieseemann drives a 100' well for each house. (Where the water table is high, engineers say you can use wells only 35' deep.) Florida (or St. Petersburg) water temperature is about 75° the year around. After passing through the unit, water is drained back into the ground via a second well. In effect, heat is returned to the earth for cooling and drawn from the earth for heating—just about the most efficient kind of air conditioning possible.

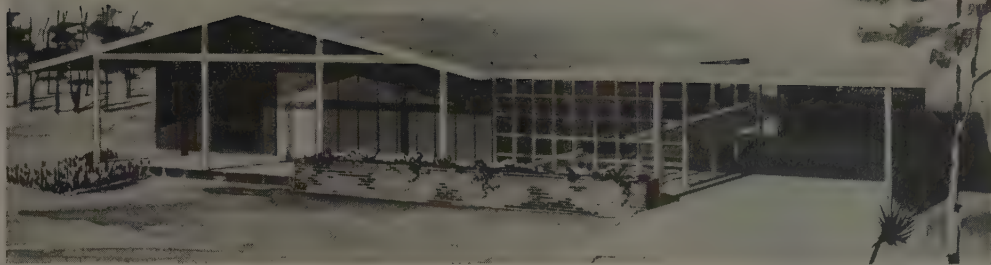
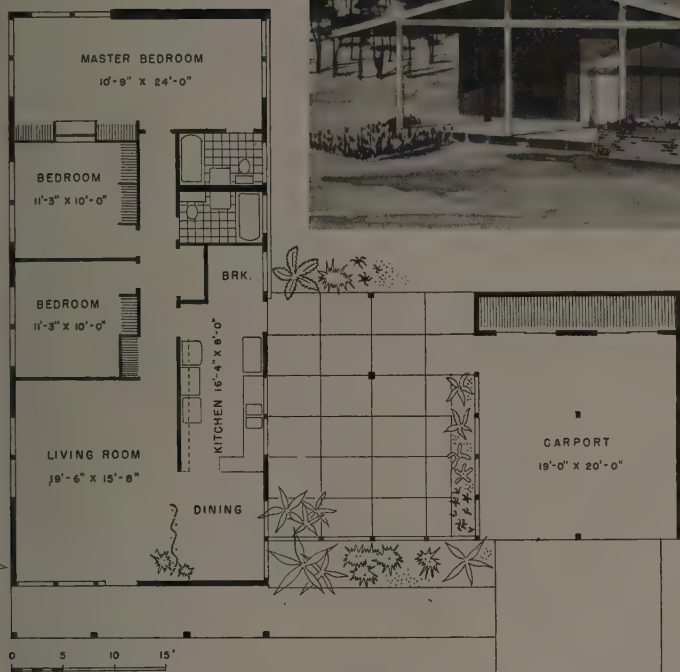
Including wells, installed cost for these 3-hp heat pumps averages \$2,100 a house—a price strongly competitive with conventional air conditioning and as much as 50% lower than air-to-air heat pumps. Operating costs are running \$110 to \$140 yearly (according to house orientation and family habits), or up to \$12 a month for year-round air conditioning. The lion's share of this bill is chalked up to cooling during Florida's seven-month summers. Heating is incidental in this climate.



Central location of heat pump reduces duct runs, cuts cost, boosts cooling efficiency. Supply ductwork runs under ceiling. Doors are undercut 2" for return air.

Air-to-air vs. water-to-air heat pumps

The new water-cooled heat pumps are half the size and \$1,000 cheaper than air-cooled pumps, cost as little as \$1,750 for a year-round, 2-ton size including well (and less the cost of a chimney which is no longer needed). But they do need a reliable water source, preferably from a well, which limits their use in certain dry areas of the US. However, cheap well water is abundant in such areas as the belt from Long Island down the Atlantic Coast to Florida and in many parts of the Midwest. Thousands of houses being built beyond city water mains where builders must provide individual wells are a natural market. Edward J. Garfield, president of Typhoon's heat-pump subsidiary, reports that water heat pumps are finding a market in such unlikely places as Southern California, where irrigation water is detoured through the units before being fed to crops. On the other hand, makers of the air-to-air systems say their units are usable wherever there is air and predict that as production increases their prices will drop.



Air-conditioned Village will have a wide variety of designs, will include some houses like this. Since each builder must sell his house, he has been made responsible for designs, but NAHB committee had final word. Most houses have wide overhangs, carefully shaded windows to cut sun load, and 4" to 6" of roof insulation.

Construction begins at NAHB's Air-conditioned Village

- ▶ Is air conditioning feasible for builder houses?
- ▶ What are operating costs?
- ▶ What kinds of design and construction are most efficient?
- ▶ What effect does air conditioning have on the health and spirits of people who live with it?

To answer these and other questions about air conditioning, NAHB is breaking ground this month for its Air-conditioned Village at Austin, Tex. Twenty-eight families have bought its 28 houses and agreed to serve as guinea pigs for a series of experiments designed to provide builders with invaluable data. University of Texas researchers will visit the home owners periodically to check on their physical and psychological states.

Houses are to be loaded with thermocouples and recording devices for a year to furnish records of air conditioning in summer, heating in winter. All major air-conditioning firms and more than 50 other manufacturers are participating in the program.

A wide range of houses is involved in the experiment. There will be various roofs and roof coverings; walls will be frame, brick veneer, solid and hollow masonry; different sorts of insulation will be installed, different sorts of windows, glass and an unusually wide variety of shading devices.

But the NAHB Research Institute has specified that all houses will have approximately 1,200 sq. ft., all will have 2-ton air-conditioning units, all will cost about \$12,000 plus land.

One year from the opening of Air-conditioned Village, NAHB will issue a complete report which should settle many points that are now in question.



Lots have frontages of 70' to 100', sell for \$25 a front foot. Since the first group of houses was plotted, others have been added which are not shown here. Adjoining Air-conditioned Village are some \$20,000 houses on one side, some \$10,000 to \$12,000 on the other.



WOMEN ARE ITS GREATEST BOOSTERS

What are the sales arguments for air conditioning . . . and how can they sell your houses?

If air conditioning doesn't sell your houses, don't blame air conditioning. Blame yourself.

Hardly a builder in the country is doing an imaginative job of merchandising this new and still almost unknown blessing which can bring comfort and better living to families in a large part of the country.

From interviewing Texas families, *HOUSE & HOME* editors collected overwhelming evidence that air conditioning makes a strong emotional appeal. When one family after another says, "It's really wonderful!" it is obvious that summer cooling could become a valuable sales feature for new houses.

A year or more ago when builders first began air conditioning their houses they expected air conditioning to work miracles. For some builders the miracle has happened (see p. 128). Others have been disappointed.

The trouble has been that air conditioning is hard to demonstrate and hard to sell to families who have had no experience with it. Many women still associate it with chilly, drafty movie theaters and restaurants. Yet women who have had it in their homes for two summers are its greatest boosters.

What people say about air conditioning . . . and ways for you to merchandise it

"We're a different family"

"Our air conditioning has changed our outlook."

"We're happier all the way around."

"It really changes your summer life."

"We have a feeling of well-being that we never had before."

"We all have better dispositions in a cool house."



... want to go through another summer like last year?

To dramatize cool air:

A builder and his salesmen must live in an air-conditioned house to talk convincingly about it.

Since women have the most prejudices against it, yet stand to benefit the most, bring in as a Saturday and Sunday saleswoman a mother of several children who has had air conditioning for two summers and believes in it. Get quotations from several women and print them in a pamphlet.

If you have a dozen hot prospects who are not quite sold on air conditioning, invite them to an open house some evening to meet families who have lived in your air-conditioned houses. If these "old families" are even half as enthusiastic as the families interviewed by H&H, they will sell your houses.

In a conspicuous place in a demonstration house post a chart showing temperature and humidity inside the air-conditioned house for 24 hours on a hot day and next to it the outside temperature and humidity for the same period. Under the inside chart print: "Portrait of an air-conditioned house. When outside temperature ranged from 87° to 98° on July 13, and humidity climbed to 90%, temperature in this house remained at 73° and humidity at 50%. You can be cool and dry all summer." Arrows should point to humidity and temperature lines.

Post a chart showing highest outside temperature for the past few weeks and highest inside temperature.

To remind visitors of last summer's heat, use a neatly lettered sign: "Want to go through another summer like last year? How did you feel on —(give ten of the hottest days with official temperature). You'll be cool and comfortable in this air-conditioned house."

"We're more comfortable"

"We're drier, and that's half the battle in summer."

"In a moist climate, having a dry house is better in so many ways. Putting on stockings, or makeup, or getting into a girdle—all are easier."

"I kept a humidity record. When it was 85° outside with 90% relative humidity it was very, very uncomfortable outdoors. Yet inside the temperature was 72° with only 50% relative humidity. It was the dryness inside that made us comfortable."



... the largest sponge you can find

To dramatize dry air

Buy the largest sponge you can find and exhibit it with a sign: "Air conditioning is like 1,000 sponges absorbing water from the air. On a humid summer day, the air conditioner will remove more than 000 gals. (or quarts) of water. You'll stay dry and comfortable."

Fill an appropriate number of quart milk bottles (based on figures from your air-conditioning dealer) with water and use a sign: "This much water is removed from this house every 24 hours in hot, humid weather."

Run the condensate line from the air conditioner out where it can be seen and let it run into an open drain or a sink. Or add glass or plastic transparent tubing to the drain line so water can be seen. Add an appropriate sign.

Put signs in closets: "Your suits and dresses will stay pressed much longer in this dry, air-conditioned closet."

What people say about air conditioning . . . and ways for you to merchandise it

"We eat better"

"I give my children a hot meal every night in summer just as I do in winter. I found kids won't eat cold vegetables. Now they eat their vegetables every night."

"I bake all the time now. In the other house I hated to turn on the oven in summer because the kitchen became so hot."

"My three children are healthier now because they eat so much better."



... kids won't eat cold vegetables

To dramatize more home-cooked meals

Sign over a kitchen stove: "You'll enjoy cooking in this cool, air-conditioned kitchen—and your family can have hot meals all summer long."

Sign on kitchen wall or on a dining table: "Good food means better health for your family. Everyone eats better, feels better in an air-conditioned house."

"We're healthier"

"Our daughter used to have one summer cold after another. But none of us has had a cold since we moved here."

"Air conditioning is wonderful for children. They don't have colds, croup or heat rash."

"My boy gets hay fever and when he begins to sneeze outside he runs in for a while. It's wonderful for him."

Said a Houston physician who is a child specialist: "There is no doubt that air conditioning is better for children. Their general health is better and they have fewer specific illnesses, such as colds and heat rash."



... when he begins to sneeze

To dramatize low costs

Use a framed cartoon showing a mother with four children going into a doctor's office. Caption: "There are fewer visits to doctors among air-conditioned families. Your own physician will tell you that with air conditioning children have less colds, croup, heat rash and other summer complaints."

Sign: "Do pollen, hay fever, summer allergies bother you? They won't if you live here. This house is air conditioned."

Sign: "Last summer in a Midwestern city there were 12,716 pollen grains per cu. yd. in outside air. Inside an air-conditioned house there were only 6 grains per cu. yd. If summer allergies bother you, you'll find relief with air conditioning."

Frame a drawing of hundreds of yellow dots inside a square, next to it another square of the same size with only a few dots. (If your area is particularly bad for hay fever or allergy victims, get local figures from your public health authorities.)

"Operating costs are low"

"We run our machine 24 hours a day and were prepared to pay quite a lot of money. Actually it costs us much less than we'd thought, and we save part of the cost in fewer restaurant bills."

To dramatize low costs

Get actual costs for similar size units in similar houses and put a sign on the air-conditioning unit: "A house this size can be cooled for only \$00 per month. Mr. and Mrs. . . . of [this address] paid \$00 last August. Mr. . . . paid \$00." Use examples where families had a separate meter for air conditioning. Get a statement from the utility company on average costs. Operating costs are lower than you think.

What people say about air conditioning . . . and ways for you to merchandise it

"We sleep better"

"In hot weather my husband used to come to breakfast saying he got so little sleep it was a waste of time to go to bed. He's a new man since we've had air conditioning."

"My children go to bed earlier now because I can make the rooms dark. Because their rooms are both dark and quiet, they sleep longer in the morning. I know they are healthier for it."

"You get the dreamiest sleep in an air-conditioned house."

"I've got twice as much energy in summer now as I ever had before."



. . . a waste of time to go to bed

To dramatize the benefits of a good night's sleep

Sign in a child's bedroom: "Your child can get 12 hours of restful sleep in this quiet, darkened bedroom where you control the temperature and moisture. Good sleep means good health."

If a bedroom is furnished put this sign on a pillow: "You'll get the dreamiest sleep of your life *all summer long* in this quiet, air-conditioned room."

Sign on a bedroom wall: "Like to sleep in a cool, dark bedroom? Then this room is for you . . . with perfect ventilation."

Another sign: "Got four in your family? Then each of you can get a good night's sleep for only 6¢ a person (25¢ per night, 25¢ per day)."



"No mildew"

"In our old house we had lots of mildew. Now we don't have any."

To dramatize the mildew problem

Put a pair of badly mildewed shoes (and other mildewed articles) in a closet with a sign: "These mildewed shoes came from a house that is *not* air conditioned. You can forget mildew if you live here because air conditioning keeps the air dry."

"Our house is cleaner and we dust less"

"Spring and fall when I open my windows I can tell immediately that the house gets dustier."

"There is less cleaning to do, and when I clean now I feel more like working."

In one study of 70 families living in air-conditioned houses, 64 said that air conditioning made house cleaning easier.



. . . open windows—dustier house

To dramatize easier housekeeping

Set a filter in a frame with a funnel-shaped collar around one side. Arrange a strong electric fan to blow directly into the funnel. To demonstrate how the filter removes dust toss in a handful of light sand, sawdust or bits of excelsior. You might arrange a large mirror so visitors can see the reverse side of the filter without standing in the breeze of the fan. Sign: "An air-conditioned house is a cleaner house because filters like this remove the dust."

Hang up a pair of very dirty filters with a sign: "Let a filter do your dusting. These filters take out dust, soot, sand, lint and particles. Housekeeping is easier."

Sign in a broom closet: "Keep your brooms and dust mops here, but you'll have less dusting to do . . . this house is cleaner because it's air conditioned."

What people say about air conditioning . . . and ways for you to merchandise it

"It doubles the pleasure of entertaining"

"When we have a party now the men leave on their coats and the women can dress as they want to."

"We do more entertaining because we enjoy it more."

"We have a much better family life."

"The movies and the automobile broke up family life, but TV and air conditioning are bringing families together again."

To dramatize summer entertaining

Frame a color photograph or drawing from a magazine showing home entertaining. Caption: "Everyone enjoys inviting in old friends. For new summer popularity there's nothing like a cool, comfortable house."



. . . oh for a cool, comfortable house

"It's easier to get help"

"When you advertise for a girl now they ask if you have air conditioning."

"My maid does more work now that she's comfortable and she often works later just to keep cool."

"I leave the windows closed all summer"

"I don't worry about rain coming in the windows or about burglars."

"In hot weather the windows are closed and locked whether I'm home or away."

"We save the price of a summer home"

"Now that we have air conditioning we've sold our summer house. We're so comfortable here we stay home all summer."

"There's a psychological advantage"

"I can work three or four hours in my garden on a hot day and I can stand the heat because I know I can go inside and cool off. There's a great psychological advantage in air conditioning."

"It is fine for the kids"

"My three children play out in the morning but come inside as soon as it gets really hot. The whole neighborhood gathers in our den."

To dramatize all these features . . .

Salesmen should be familiar with these features. Quotes such as those at the left should be included in a give-away pamphlet. Builders should try to get quotes from local families who have used air conditioning. Testimonial advertisements have always been successful.

Set up a special room in the garage or elsewhere where some of the above signs may be used. Display an air-conditioning unit and show by cards how it operates. Display your insulation and describe how your house is warmer in winter as well as cooler in summer. Explain why a house designed for air conditioning with insulation, overhangs, minimum west windows, etc. adds comfort, reduces air-conditioning operating expense.

. . . included in a give-away pamphlet



The whole neighborhood gathers . . .



Roger Sturtevant

How much heat comes in a window?

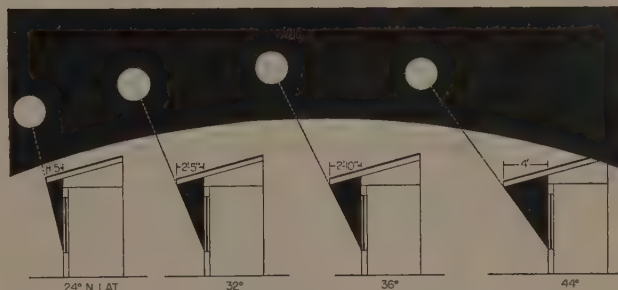
The theory that all the problems of the air-conditioned house are licked if it has no west windows is bunk. Windows in any of your four walls can be a critical source of heat. A new study reveals that:

1. East windows equal west windows as a source of sun heat. The accompanying table shows that exactly as much solar heat pours in through east glass in the morning as comes in west windows in the afternoon. Morning temperatures may be lower than afternoon temperatures but sun heat in the morning coming through unshaded windows can quickly dissipate all the cooling that has been stored up overnight in slab, walls and furniture. Then the compressor has to start up sooner and run longer. When this happens there is no reserve cooling left in the house to help the unit through the hot afternoon. So shading east windows cuts the over-all heat load and reduces operating costs sharply.

2. North windows let in plenty of heat, too. In Corpus Christi and Central Florida an unshaded north window lets in just about as much solar heat as a south window (as shown in the table). This is because the sun rises in the northeast and shines on north windows as long as four and a half hours every morning. About 3 P.M. the sun has come around and hit the north glass again and will continue to hit it for the rest of the afternoon.

3. A northern house needs a wider south overhang. In the South the sun is almost overhead at noon so a narrow overhang will serve to shade south windows. The farther north you go, the wider the overhang you need.

4. Heat-absorbing glass works better than double glass on east and west exposures. Because numerous air-conditioned office buildings are using heat-absorbing glass, builders are asking how effective it is for keeping sun heat out of houses. The table shows that single-pane, heat-absorbing glass consistently lets fewer Btu's through east and west windows than double glass; but in the North double glass would have an edge because it minimizes drafts, cuts heat losses in winter. In the South, however, it may be a good idea to use single heat-absorbing glass, which is cheaper than double glass, for east and west windows.



Shading south glass with an overhang is clearly dependent on latitude. The farther north you are, the wider the overhang you need to shade your south windows fully.

Average 24-hr. cooling load—Btu's per hr. per 100 sq. ft. of glass

1. 28° N. Lat. Central Florida, Corpus Christi, Tex.				
	North	East	South	West
Sheet glass	2,040	4,880	2,130	4,880
1/4" heat-absorbing	1,700	3,610	1,760	3,610
Double-glazing	1,490	4,030	1,540	4,030
2. 36° N: Nashville, Tulsa				
Sheet glass	1,950	4,950	3,060	4,950
1/4" heat-absorbing	1,630	3,640	2,370	3,640
Double-glazing	1,430	4,090	2,320	4,090
3. 44° N: Watertown, N.Y., La Crosse, Wis.				
Sheet glass	1,990	5,140	3,820	5,140
Heat-absorbing	1,650	3,780	2,880	3,780
Double-glazing	1,460	4,280	3,030	4,280

Heat load through unshaded glass varies with latitude and exposure (as shown). Figures include both sun and outside air heat over 24-hour period—most accurate method for computing home cooling load. Table is result of new study by Libbey-Owens-Ford research engineers.

14 crucial questions...

the right answers can cut your air-conditioning costs

*Some houses are easy to cool,
so operating costs are low.
Some houses have trouble spots,
so operating costs are high.
The difference between them is planning.
Better planning pays off not only in operating costs
but also permits the use of a smaller cooling unit,
which costs less in the beginning,
costs less to operate
and does a thoroughly satisfactory job.
Here are 14 questions
you can use to test your house:*

1. How can you stop humidity from infiltrating your roof?

Answer: install a ceiling vapor barrier.

It can cut the humidity in air-conditioned houses one-third, reduce first cost for cooling and operating costs 8 to 10%, especially in unusually humid locations. These figures are based on findings in test houses with and without vapor barriers. (How big a part moisture plays is demonstrated by the fact that 134 quarts of water were removed from one 1,800 sq. ft. house in 24 hours.)

How it works: it stops outside air vapor from seeping into the house through the ceiling, which is about ten times more permeable than the walls.

2. Is it O.K. to have ducts in your attic?

Answer: only if they are insulated like refrigerators.

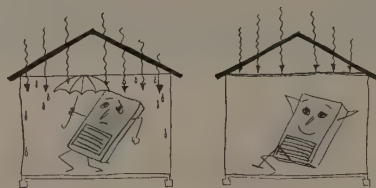
Cool air traveling through poorly insulated or uninsulated attic ducts can pick up so much heat that little cooling reaches the house. In one such case supply air left the conditioner at 60°, but was up to 76° before it reached the last room in the house. In another, despite large gable vents and a white marble-chip roof, attic air was 145°. Many engineers further recommend at least 6" of insulation for ceilings (see H&H, Aug. '53—top priority No. 1).

3. What effect does the age and sex of house occupants have on cooling systems?

Answer: surveys indicate that young people want more cooling. Middle-aged and older people want less cooling. Men usually prefer a 2° cooler house than women.

For the first group you will generally have to count on delivering 75°, for some as low as 68°, temperatures. The older people are likely to prefer 76°-78°. As to the difference between the sexes, a woman who shivers all summer in a 72° house says: "Just right for my husband but, my gracious! too cold for me. I wear a sweater."

Cautionary note: if your customers are likely to want ice-box temperatures, warn them that the lower they set their thermostats, the higher their bills will be.



Ceiling vapor barrier stops the rain of moisture

4. How can you stop moisture from being sucked up from a crawl space?

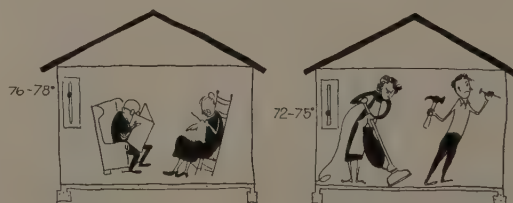
Answer: install 55-lb. roll roofing paper over the ground under the crawl space.

In a crawl-space house, moisture from damp ground or from normally dry ground which has been dampened by a lawn sprinkler is sucked up into the house, overburdens the cooling system and makes the house uncomfortable.

5. Will a given cooling system work equally well on any lot?

Answer: no. For "hot" lots you will need bigger units or extra shading devices.

Veteran Engineer Bill Nessell who studies air-conditioned houses all over the US says: "We see projects where a builder lays out a cooling system for one house and repeats it in all his houses without regard for orientation. But when big windows face east or west, the system is unable to handle the extra load they impose."



Air conditioning vs. age and sex

6. Is the biggest unit automatically the best unit to use?

Answer: *no, quite the contrary.*

Too big a unit quickly lowers the temperature, then shuts off. Humidity builds up during the off periods, and on-off cycling all day builds up costs. In effect an oversize unit goes to sleep on the job. Too small a unit draws peak power around the clock, even on mild days, and will also run up costs.

Solution: each house demands an individual heat-load calculation which can only be made satisfactorily by an experienced *residential* air-conditioning engineer.

7. Do you need fresh-air ducts?

Answer: *almost certainly not in a medium-sized house which has an exhaust fan.*

After two summers field-testing air-conditioned houses, engineers of the National Warm Air Heating & Air-Conditioning Assn. report: "In no case did an owner complain of odors or stale air." Most houses checked had no air ducts for taking in fresh air, did have kitchen exhaust fans.

Tentative conclusion: enough air infiltrates houses to keep them fresh—especially with an exhaust fan.

Cautionary note: the kitchen exhaust fan should be directly over the cooking surface in order to remove odors at their source.

8. How much can you count on slab construction to lighten the cooling load?

Answer: *about 10% vs. crawl space or basement.*

New cooling tests by the University of Illinois confirm earlier reports that the heavy slab mass stores up appreciable cooling overnight, releases it to the house the next day.

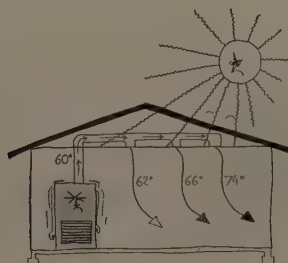
Note: during the test researchers checked for condensation on slab floors. They found none so concluded it was no problem, at least in the North.

9. How can you avoid trouble with your ducts?

Answer: *have them 1) large enough, 2) insulated right.*

Be sure your ducts are big enough to begin with (larger than for heating alone) because once they are sealed in the walls, you can do nothing to correct the condition but tear the house apart.

Where cool ducts pass through warm space it is crucial to insulate them so moisture will not form on them, nor will they lose their cooling. Ducts running up an outside wall can lose practically all their cooling to the wall cavity. Ducts running through any uninsulated space, like a utility room, lose cooling if they are not insulated.



Beware of cool ducts in a hot attic



Too big a unit goes to sleep on the job

10. What is the biggest source of heat inside the house?

Answer: *the clothes drier.*

Try to move it into the garage or utility room. But if you cannot move it, vent it directly to the outdoors, even if it is in the basement (H&H, Aug. '52, p. 109).

Kitchen heat is normally not a problem with a proper fan installation over the stove. Refrigerators and other appliances do not cook up enough heat to warrant extra vents.

11. How can you reduce maintenance and service bills?

Answer: *give your buyers simple instructions on how to clean and change filters. Teach them how to drain a cooling tower in the fall and turn it on in the spring.*

There is no mystery to air conditioning.

12. How can a builder get higher valuations for cooling from FHA-VA?

Answer: *work out operating and maintenance costs with the greatest possible care.*

Be sure they are complete and accurate. Never go alone to FHA-VA and try to explain something new you do not understand. Take an experienced engineer with you and let him do the talking.

13. How can use of the "24-hour theory" save money?

Answer: *don't turn the unit off at night.*

If engineers calculate cooling loads on the basis of 24-hour operation they can specify a smaller unit, which obviously costs less. If a cooling unit runs through the night it stores up cooling in the slab, walls, furniture, etc. The next day this stored-up cooling is slowly released to help the compressor cool the house. Cold can be stored up in a house just as heat can.

14. What can be learned from electrical bills?

Answer: *plenty.*

Doubting Thomases among builders who are skeptical of engineers' slide-rule calculations on how much heat comes through windows, roofs and elsewhere should do some first-hand investigating of electrical bills for air conditioning. For electrical bills confirm the theories and priorities given by H&H (Aug. '53) in an article that should be read again by all builders who are about to use air conditioning.

Prediction: one of the next major design trends in air-conditioned houses will be the addition of shading devices *outside* the house. For the easiest, cheapest way to stop sun heat from getting into a house is to cast shade on east and west windows. Exterior shading devices are getting a great play at NAHB's Air-conditioned Village (p. 119) and are certain to cut electrical cooling bills.

Can air conditioning sell houses?

These builders say

yes!

Dick Hughes, *Pampa, Tex.; president, NAHB*

NAHB President Hughes is well-known as the staunchest backer of air conditioning among builders. This year he is bringing out a new line of houses (H&H, Feb. '53) and will offer air conditioning as optional equipment in all of them. One of his subsidiary firms sells air conditioning. He hopes soon to include air conditioning as standard equipment in houses even under \$10,000.

Jesse Johnson, *Ft. Lauderdale*

"Air conditioning is the strongest appeal attracting prospects to our \$13,784 houses. Air conditioning was the sink-or-swim factor on which we built our sales program." Under construction: 100 houses; 60 sold.

Lloyd Fuller, *Tucson*

"Tales they had heard about operating costs made people cautious about air conditioning, but it proved a definite sales help. We feature it in our lowest-priced \$8,950 homes and find it a tremendous boost. It is a definite must at \$15,000 and up. We are not building any homes without it and FHA and VA give us 100% allowance for its cost."

Harold Sarshik, *20th Century Construction Co., Haddonfield, N.J.*

"Air conditioning is definitely a sales feature. We built 85 houses at \$15,500 to \$17,500 with air conditioning and sold every one. But no one will buy air conditioning alone. The house and neighborhood must be good. This year we plan to do 250 and air condition all of them, including some at \$13,500."

Kemmons Wilson, *Memphis*

"We opened four air-conditioned models at around \$17,000 in December and sold 11 houses the first day, four the next. As a sales feature there is no place we could have spent \$1,100 (cost of air conditioning over heating) which would have done us as much good."

Charles R. Byrd, *Birmingham*

"Buyers in the medium-price range are willing to forego other improvements to get air conditioning. Most prefer it to a fireplace. Air conditioning has tremendous sales appeal, especially at \$20,000 or over, and is well worth the extra cost."

James D'Agostino, *Teaneck, N.J.*

"In my \$30,000 price everyone wants the latest ideas and they want air conditioning. Of my last 28 houses, I sold 27 with air conditioning. It is a great sales builder on a hot day. When folks walk into an air-conditioned house it hits them like a ton of bricks."

Etheridge & Vanneman, Inc., *Atlanta*

"In this territory air conditioning is a very definite stimulant to sales in all price classes. Money expended for air conditioning could not have been used to better advantage for any other facilities in the house. We are now planning a house to sell for \$7,990 with complete air conditioning." Their last year's air-conditioned houses sold for \$16,790.

Orlin Edwards, *Chattanooga*

"Buyers want air-conditioned homes. How much extra they will pay is still a question. But people found ways to buy automatic heating and they will not be satisfied until their homes are cooled also. We install air conditioning in every home we build at \$16,000 to \$24,000.

Elbert L. Fausett, *Little Rock*

"Air conditioning proved a boon in our trade area. Sales are far in advance of construction." His price, \$11,000 to \$17,000.

Truitt Peachy, *Houston*

"People are going to buy window units sooner or later in our \$20,000 and up houses so why not give them central air conditioning right now?" All but two of the first group of 26 houses (by several different builders) in his project are air conditioned.

These builders say

no!

Frank Vellanti, *Florida Sundeck Homes, Homestead*

"In spite of our sales-promotion program, the results of air conditioning were negligible in our \$5,580 to \$8,100 houses. As a matter of fact it hurt us. Air conditioning is perhaps an aid to more expensive homes but in low-priced homes the results were zero."

George Halraven, *Houston*

"As an attraction, air conditioning is all right, but it's no roaring success. It is a necessity in houses over \$20,000 but I tried it at \$13,850 and it is strictly a luxury there."

Miles Strickland, *Houston*

"I'm not going to pioneer. I've tried to do a good job of squeezing three bedrooms and two full baths into a \$13,500 house. I get 100% GI financing. Why should I add air conditioning and change the arrangements?"

L. W. Prokop, *president, Houston Homebuilders*

"People want space in a house and at a price under \$15,000 you cannot provide both space and air conditioning." He has put air conditioning in houses over \$40,000 and in two at \$13,000 and \$15,300, but will not air condition his new group at \$11,000 to \$12,000.

P. H. Wolf, *Houston*

"I'm a great believer in air conditioning. In houses at \$25,000 and up you have to put it in, but under \$20,000 it's different because sales there are strictly a matter of down payment and monthly payments."

These builders say *if...*

J. S. Norman Jr., *Houston*

"Air conditioning could help sell small houses but it is not doing so today. People are interested only in buying financing. The terms they get make more difference than air conditioning." But the Norman firm will put summer cooling in about 50 of its 150 to 200 houses at \$15,000 to \$16,000 this year, and will fully prepare the rest for air conditioning. A Norman subsidiary will take on an air-conditioning dealership.

Strauss Bros., *Lincoln, Neb.*

"In our \$12,500 to \$15,000 price, air conditioning was taken by 25% of buyers. We think it is worth the extra cost of \$799 for 2-tons and \$925 for 3-tons installed. Some buyers like the fact that air conditioning can be added later."

Albert Kaufman, *Elmhurst, Ill.*

"It helps sales in summer but not in winter. I would call air conditioning a partial success in our range of \$18,900 to \$22,500."

James R. Price, *pres., National Homes, Lafayette, Ind.*

National Homes offers air conditioning for \$500 to \$600 extra (H&H, Nov. '53). Although the idea was new for its dealers, and winter is a poor season to sell air conditioning, Price reports that 6% of houses sold for delivery the first quarter this year will have air conditioning.

Joseph O. Shaffer, *Jacksonville*

"In the \$20,000 to \$25,000 class where we build, we believe homes must be air conditioned. But we doubt the advisability of the extra cost below this price. Air conditioning has not been an outstanding success principally because of lack of public education. Low running costs have not been stressed in advertising. We are planning a local home show built entirely around air conditioning, where each firm can show the public what units look like and cost."

Lou Barba, *Summit, N.J.*

"The time to start selling air conditioning is May. In the winter, July and August seem a long way off." Last summer Barba sold air conditioning in his \$19,800 contemporary houses that outsold conventional designs in his area about four to one. But he found air conditioning was not a sales feature in winter, so he switched to an equivalent amount of appliances.

T. E. Braswell, *Houston*

"Sales have been good but I want to keep them good, so I added air conditioning. But I didn't open until September and I can't tell yet how air conditioning will go. I've sold four of the seven built or under construction." He has an \$11,700 house with 2-tons of air conditioning, the lowest priced air-conditioned house in town.

Baldwin Hvass, *Greenwich, Conn.*

"It does and it doesn't. I put air conditioning in 25 houses at \$25,000 to \$35,000 last year and sold every one. I know that at \$30,000 or more air conditioning does sell some people. In extremely hot weather it definitely helps. But under \$30,000 people shop around a lot and while they like it, many feel they can't afford it."

What does this add up to ?

Houses over \$20,000:

1. Most builders agree that air conditioning helps to sell houses over \$20,000 in hot climates.
2. In cooler areas there have been some successful projects, but cooling is selling far slower than in the South.

Houses under \$20,000:

1. Builders do not agree on the exact price where air conditioning becomes a help to sales. Some of the most pessimistic builders are in Houston, some of the most optimistic are in the North. But there is plenty of proof that when air conditioning is put in a well-designed house and merchandised it becomes a sales feature.
2. Air conditioning by itself will not sell a poor house in a poor location. Like a good kitchen, it helps to sell a good house that is priced right.
3. Last summer air-conditioning sales in new houses under \$20,000 were seriously hampered by two factors: mortgage money and FHA-VA. Many builders who had hoped to try air conditioning had so much trouble getting mortgage money that they did not want to do anything to disturb their financing pattern. FHA and VA in many areas penalized families who wanted air-conditioned houses by insisting they have considerably higher incomes to pay for allegedly high operating costs.

*Here is how the editors of FORTUNE,
America's No. 1 business magazine,
appraise the progress, the prospects and
the market for homebuilding.*

Their advice: *build better houses.*

*The public can afford them,
and the public will pay higher prices
for better values.*

FORTUNE reports on: **The changing market**

—by Gilbert Burck and Sanford S. Parker

James Mason



for housing

**The revolution in housing is going on right now,
and these are the changes
that have produced it:**

houses like this one (waiting to get into a house in the
Beverlywood subdivision in Los Angeles) form wherever houses
are displayed, prove over and over that people want to own
houses. Cross country they spend week ends house-hunting.

Housing is the only one of the nation's four largest markets (the others are food, clothing and autos) that today has strong potentialities for growing *faster than the economy as a whole*. Housing is now close to a \$20-billion market already larger than the auto market, and promises to become larger still. House-building is bound to play a portentous role in keeping the whole American economy prosperous, because new houses mean new furniture, new appliances, new stores, new highways, new schools.

Probably no American industry has had more heads shaken over it than the housing industry.

Only seven years ago housing was being described (by FORTUNE, among others) as the industry that capitalism forgot. For the past four or five years many economists have been predicting an early slump in housing. Only a few weeks ago Colin Clark, the noted British worrier, was lamenting that housing provided no hope for America's faltering 1954 economy because housing costs are too high. But the fact is that the housing market—barring war or depression—now holds promise of providing the great US "growth situation" of the fifties and the sixties.

► **People need a lot of housing.** Households are increasing at an unexpectedly high rate. The average age of the country's housing stock is 25% higher than it was in 1930. It would take perhaps ten million new units to restore the 1930 age house distribution.

► **People can afford a lot of housing.** Cash income per family unit (1953 dollars) has risen 40% since 1929, but the value per occupied housing unit has fallen 15%.

► **Better houses are costing less.** The major obstacle to replacing substandard houses was high costs. Today, however, leading builders are using mass-production principles to offset the high cost of everything that goes into a house, and are reducing both costs and prices. Many boast plausibly that a house today is a better buy compared to a 1946 house than a 1954 car is compared to a 1946 car. Certainly the day is close at hand when almost anybody with a job can afford to own a house.

► **Financing, underwritten by the federal government, is easy and cheap, and Eisenhower Administration policy is to keep it that way.** One little-known but very important example of how the government has helped: during the war, to get emergency housing erected, FHA committed itself to guaranteeing mortgages before the houses were built. This practice has been extended, and enables builders to put up five times as many houses with the same capital as they did before the war.

► **People want to own houses.** Because houses are becoming so attractive, people are bestowing on them something of the pride and interest they have long lavished on autos. A house is not only *Home, Sweet Home*, it is something to look at, read about, talk about, fix up, improve and even to stay in. Just as popular desires and aspirations in the twenties centered around the auto, so American desires and aspirations now seem oriented back to the home, or at any rate popular aspirations are sufficiently expanded to embrace a house as well as a car. Home ownership is becoming a kind of mass movement that almost surely will accelerate greatly the development of the market.

People can afford to buy far better homes than they have been buying since the war

Instead of estimating an arbitrary "need," suppose we now try to analyze the demand by comparing what has happened to the home-buying power of various income groups since 1929 with the value and age of the houses they can buy. The charts (left) show the result. They show that the nation's standard of housing has failed by an astonishing margin to keep pace with the nation's ability to pay for better homes.

The number of family units with more than \$7,500 disposable income (1953 dollars) has more than doubled since 1929—from two million to 5,300,000; but the number of houses worth more than \$22,500 has decreased from 2,200,000 to 1,800,000. In other words, what was once a modest surplus of higher-priced houses has turned into a large deficit.

If the housing industry had been anywhere near as successful as the auto industry in getting its "share" of middle and upper income purchasing power, the US might have, instead of its 1,800,000 houses worth more than \$22,500, nearly eight million of them.

The number of family units with \$4,000 to \$7,500 disposable cash income (1953 dollars) has increased more than threefold—from 5,400,000 to nearly 18 million. How much did a family in this income bracket pay for a house in the twenties? Up to three times its income, or in other words, from \$12,000 to \$22,500.

But since 1929 the number of housing units worth \$12,000 to \$22,500 (in 1953 dollars) has increased by only about 30%—from 4,800,000 to 6,300,000.

To put it another way, some 11 million families in the middle brackets are living below what might be called their 1929 standard of housing.

The number of family units with \$2,000 to \$4,000 disposable cash income (1953 dollars) has increased only from 13,100,000 to 16,200,000, and the number of housing units worth \$6,000 to \$12,000 has increased much more proportionately—from 8,400,000 to 13,800,000.

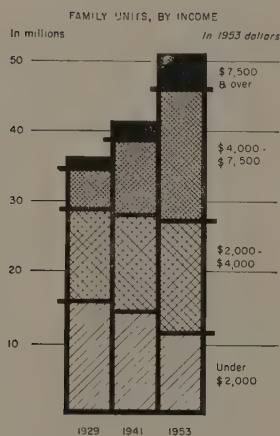
The number of family units with \$2,000 or less in disposable cash income (1953 dollars) declined from 16 million in 1929 to 11,500,000 in 1953. But the number of housing units worth \$6,000 or less increased from 14,500,000 to 24,200,000. This suggests that millions of family units with more than \$2,000 a year in disposable cash income (1953 dollars) are living below their "standard" of housing (and perhaps above their "standard" in television and cars). Moreover, the bulk of these 24,200,000 housing units are more than 30 years old, and although a lot have been remodeled, probably a quarter of them are substandard.

In other words, during all this housing boom Americans have been spending relatively far less for housing than in 1929. They have been buying more cheap houses and fewer better houses.

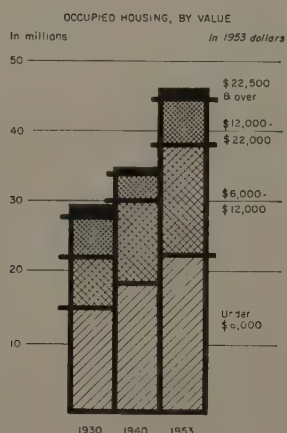
How account for this phenomenon? For one thing, it reflects the underbuilding during depression and war. For another, most houses built since the war, thanks in part to FHA's emphasis on low-cost housing, were relatively low priced (see chart opposite).

Finally, housing seems an excellent example of what economists call a price-elastic commodity: when its price rises more than the general price level, people end up by spending less on it.

Between 1929 and 1947, according to imperfect indexes available, the cost of homebuilding rose more than half again as much as the general price level. People responded, apparently, by spending a smaller proportion of their income on it.



***There are a lot more prosperous families
and a lot less low-income families than in 1929, but . . .***



***There are few better houses available—
and a lot of cheaper houses!***

America needs 1,250,000 new nonfarm homes a year

The *need* for housing is still much greater than anyone thought it would be.

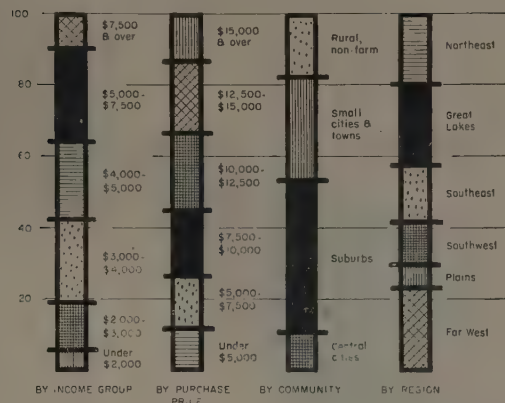
Part of the need is the fundamental, almost irreducible need based on the net increase in households each year, plus an allowance for destruction and vacancies. This is what the economy must have merely to maintain the present ratio of housing stock to population.

This basic demand, created mainly by household formation, is staying unexpectedly high. The wartime and postwar marriage boom is not tapering off as much as once appeared likely and single people are setting up more households than was expected. Thus household formation is not likely to fall below 800,000 in 1955-59. It will rise steeply again after 1960, when the baby crop of the forties begins to reach marrying age.

To this 800,000 units of basic demand, there must be added perhaps 300,000 to make up for demolition and maintain a reasonable vacancy rate as the housing supply increases. So 1,100,000 housing units* are needed just to satisfy minimum requirements in the years 1955-59.

The second need is for units to raise the standard of housing as high as the over-all living standard has risen, and to keep it rising at about the same rate. It is called the replacement need, because it involves scrapping old houses.

Estimates of the replacement need usually depend on who is doing the estimating. In 1950 the HHFA figured that 6,300,000 units of the nonfarm home supply were substandard, and that 7,700,000 would be so by 1960; to wipe out this substandard housing in, say, ten years, would require about 700,000 units a year (in addition to the 1,100,000 needed to satisfy basic demand). Other estimates have assumed that the housing stock—now 44 million nonfarm units—should be replaced or rebuilt every hundred years, which would mean a replacement-market potential of nearly 450,000 housing units a year.



The postwar housing boom . . . was disproportionately 1) middle-class, 2) suburban, 3) West and Southwest. Families with \$3,000 to \$7,500 a year bought 81% of the total; 76% cost \$5,000 to \$15,000 (all in 1953 dollars); 43% were built in the metropolitan suburbs and 29% in small cities and towns; and nearly a quarter were built in the fast-growing West, which has only 13% of the nation's population.

People will spend more for houses if they are offered better values

To keep the ever normal housing boom going strong, the industry must probably reduce costs and prices. This, however, does not mean that its gross must decline. Just as people spend less on a durable whose price increases inordinately, so they tend to spend more on durables whose prices decline encouragingly. So possibly the industry can achieve a high dollar volume by making both new and remodeled houses so attractive, physically and financially, that people who can afford to pay more will be willing and even eager to spend more.

Can the industry improve its product that much?

The forces of progress. The widely used indexes of housing costs are inadequate, for they are based, not on the cost of the finished house, but just on the cost of labor and materials going into it. They make no allowance for the skill and productivity of the builders. Actually, the forces of productivity are overcoming the forces of stagnation.

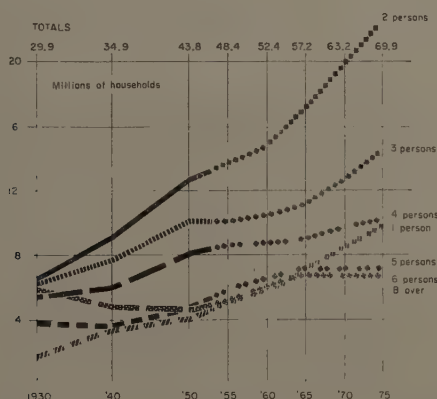
The industry has begun to give more for less, and competition will force it to give still more for less. Even the casual observer can see some of the evidence of recent progress—the ingenious utilization of space, the simplification of design, the integration of house and land, the use of fabricated components. But a closer look at technique reveals a long list of advances that add up to something close to a revolution.

Factories in the field. So far it is the mass builders who are making the spectacular advances in cutting costs and giving more for the money.

This is roughly verified in a book called *Housebuilding in Transition*, by Sherman J. Maisel, associate professor of business administration at the University of California. Mr. Maisel estimates the cost of constructing a 1,000 sq. ft. house by a small builder (one to twenty-five units), by a medium-sized one (twenty-five to ninety-nine), and by a large one (100 units and more). Before overhead and profit, he figures the house would cost the small builder \$8,759, the medium-sized builder \$7,916, and

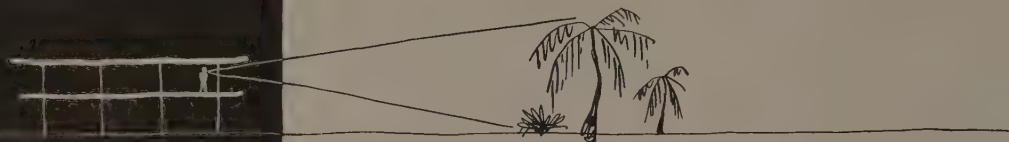
continued on p. 193

* This estimate includes 100,000 farmhouses and 200,000 net conversions, mostly big single units cut up into smaller units; thus the minimum need is for some 800,000 new units of nonfarm housing.



More but smaller households . . . the number of five-or-more-person families is expanding right now and creating a new demand for larger new houses. Yet the average size of the household is shrinking. Why? Because the number of one- and two-person households is rising steeply. More widows and newlyweds are living by themselves.

Because this glassy house is raised up on stilts . . .



. . . it gets a much better view



. . . it catches much more of the breeze



. . . and it still retains a lot of privacy, despite the glass

The sketches on this page suggest three excellent reasons for raising houses up on stilts—and, especially, wide-open, glassy houses. The reasons: you get a much better view than you would from the ground; you get much more of the breeze than you would down below; and you get a great deal of privacy even though your house may be as transparent as a goldfish bowl.

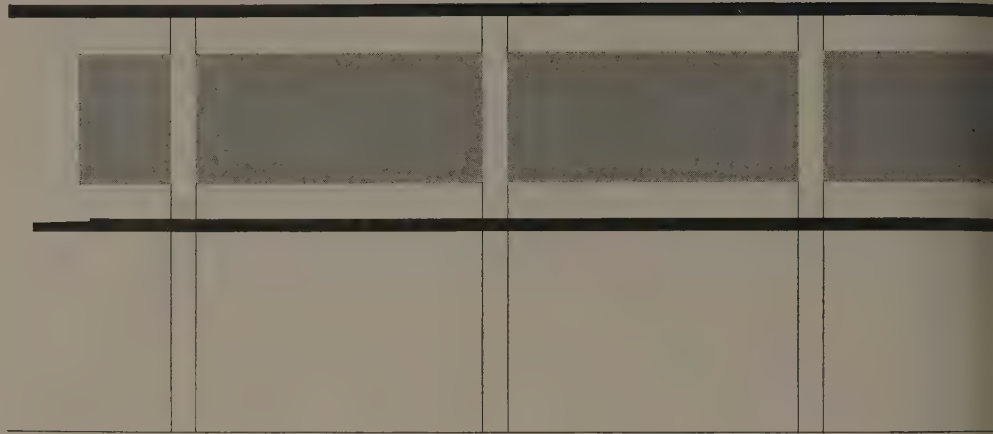
These reasons make a great deal of sense in almost any kind of climate. In southern Florida they make particularly good sense. Architect Rufus Nims, who designed this spectacular house on stilts in a setting of palm trees near Miami, knows about as much about Florida living as anyone. And he is convinced that a stilt solution is almost unbeatable for a subtropical climate.

He is not alone in this: South Pacific islanders and others have, for centuries, raised their houses up on stilts to catch more of the constant breeze (which is still the best air-conditioning medium available). Architect Nims has learned a few other tricks from them: for example, his roof overhangs are deep enough to provide excellent shelter against sun, sky glare and torrential rains; and his structure is sufficiently open to survive almost any hurricane. For details of these and other ideas, please turn the page.

LOCATION:
Hibiscus Island, Miami Beach, Fla.
RUFUS NIMS & WILLIAM JAMESON,
architects
NORMAN J. DIGNUM,
structural engineer
This house was first seen
by consumers in *House & Garden*.



DIAGRAMMATIC SECTION SUGGESTING
SEPARATION OF CONCRETE STRUCTURE
FROM NON-STRUCTURE



Because the frame is reinforced concrete . . .

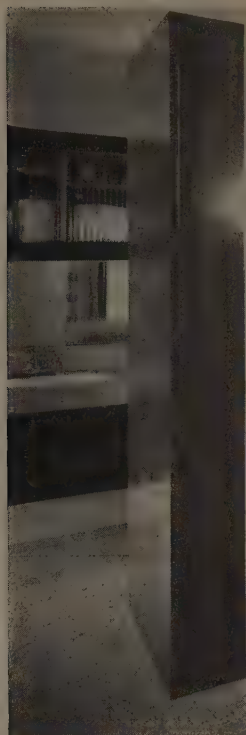
. . . slabs are easily cantilevered out all around the house

Result: *plenty of protection from sun, glare and rain*

"Floating walls" seemingly supported on strips of glass increase the sense of spaciousness inside. For similar reasons, Architect Nims raised up all his furniture, reduced visual obstruction of floor area to minimum. Glass strips above and below partitions slide open, provide additional ventilation where it does most good.

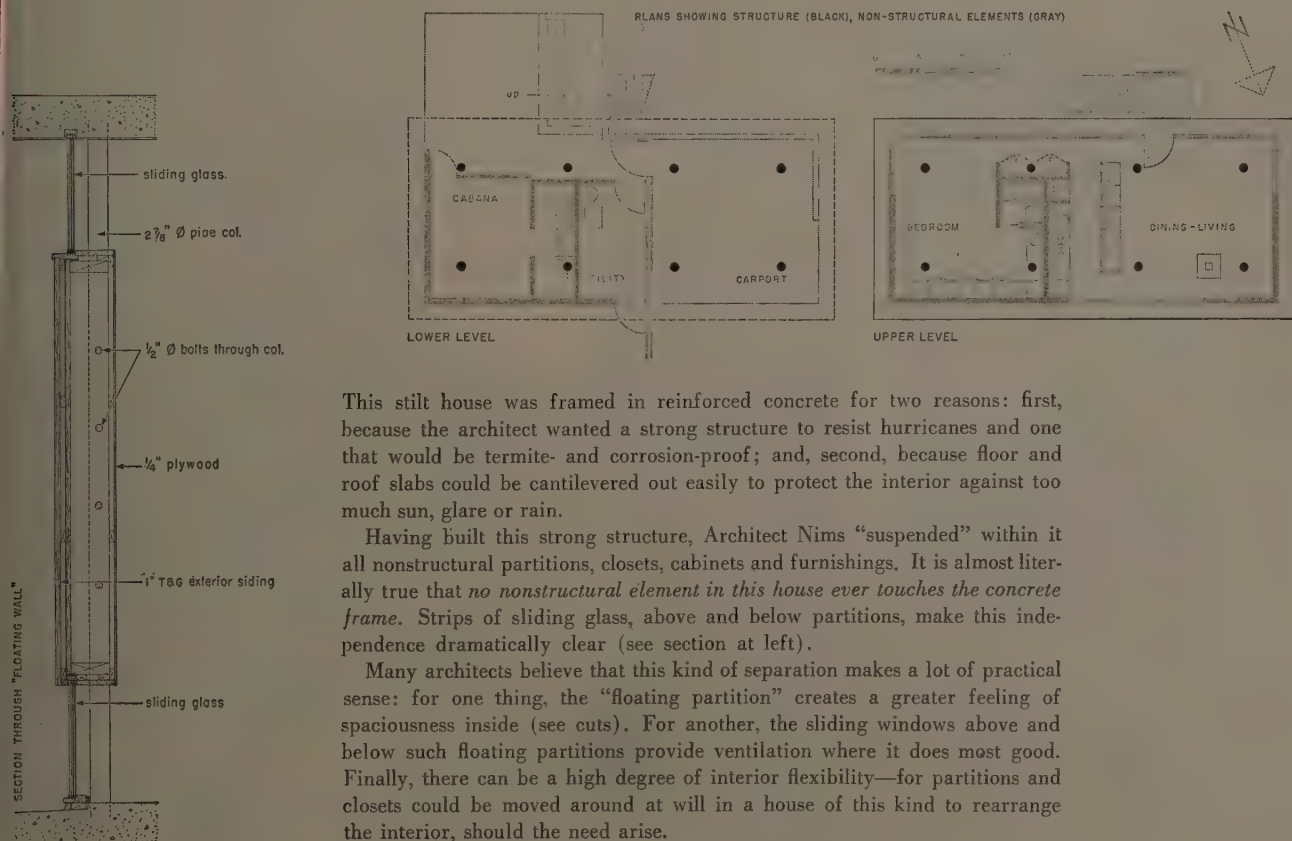


Storage wall separates kitchen from living area, contains built-in, drop-leaf table



... partitions and closets can "float" independently between floor and roof

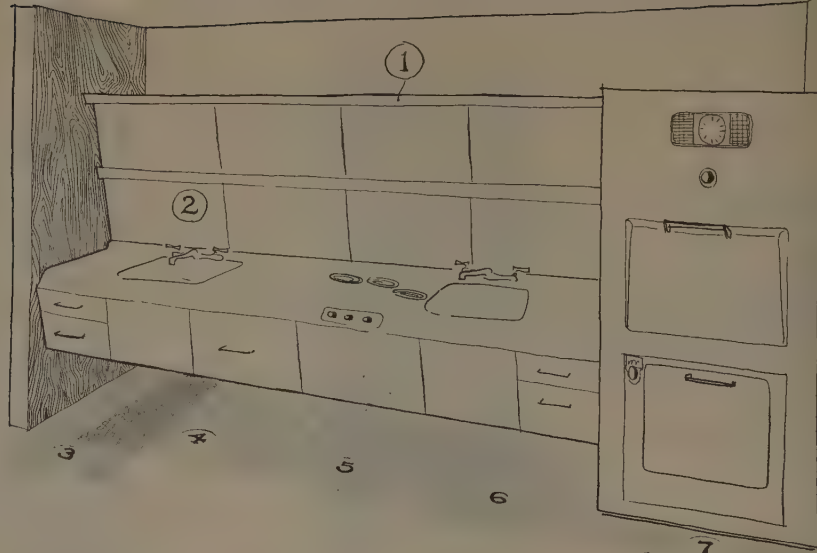
Result: a sense of airy spaciousness inside



This stilt house was framed in reinforced concrete for two reasons: first, because the architect wanted a strong structure to resist hurricanes and one that would be termite- and corrosion-proof; and, second, because floor and roof slabs could be cantilevered out easily to protect the interior against too much sun, glare or rain.

Having built this strong structure, Architect Nims "suspended" within it all nonstructural partitions, closets, cabinets and furnishings. It is almost literally true that *no nonstructural element in this house ever touches the concrete frame*. Strips of sliding glass, above and below partitions, make this independence dramatically clear (see section at left).

Many architects believe that this kind of separation makes a lot of practical sense: for one thing, the "floating partition" creates a greater feeling of spaciousness inside (see cuts). For another, the sliding windows above and below such floating partitions provide ventilation where it does most good. Finally, there can be a high degree of interior flexibility—for partitions and closets could be moved around at will in a house of this kind to rearrange the interior, should the need arise.



... and because the kitchen has been restudied from scratch

... it challenges accepted practice

... combining horizontal wall refrigerator,

eye-level oven, twin sinks

one prefabricated work cabinet

Architect Nims has taken the kitchen out of the kitchen and put it into the living room. To make it look as if it belonged there, he has designed it in two prefabricated units that look like handsome pieces of furniture:

One is the work wall (above). The most revolutionary idea here is the counter-level, cork-lined, 7 cu. ft. wall refrigerator behind silver-surfaced doors. (Its cold loss, according to Nims, is "not excessive.") Other components are a wall oven with shoulder-high controls; continuous, shadowless strip lighting; separate sinks for food preparation (shallow) and for pot cleaning (deep); and a ceramic tile counter with a 3/16"-high lip to prevent water from splashing onto the floor. (Because the owners don't go in for serious housekeeping, the shaggy, white and washable rug is not out of place. It is made in two pieces, for easier laundering.) Joints between tiles are very tight to keep cement from getting greasy with use.

The other piece of furniture is a storage wall (left): this one separates kitchen from dining area, contains two-way access shelves with sliding glass doors and a built-in drop-leaf table on the dining side. Nims has worked on kitchens for Howard Johnson, used this special design to test his most advanced unit-prefabrication ideas. To build this kitchen he had to buy and de-gut standard appliances. He hopes to manufacture prefab kitchens in time.



Two-part kitchen consists of free-standing storage wall (above), built-in work wall (right). Architect Nims used ceramic tile for lavatory counters as well.



Strip lighting for shelves and counter. Casts no shadows.

Horizontal refrigeration with sliding doors, two removable racks of adjustable, shallow shelves. Thus everything is within sight and reach.

Hard and soft drinks stored at kitchen end. Access does not interfere with kitchen activities.

Food preparation with own sink, refrigeration and storage above, garbage bin under sink.

Cooking area with deep, usable counter space in front of burners.

Clean-up area with special deep sink. Result: pots and pans disappear from sight.

Utility area with eye-level oven, storage above, built-in dishwasher below.



Utility unit shown in foreground (above) contains oven with shoulder-high controls, dishwasher below.

Glare control is handled two ways: deep green plastic screening, green jalousies and green curtains all help to cut down brightness; and ribbon windows above and below partitions help illuminate ceilings and floors evenly, reduce contrast between brightness of indoor surfaces and the principal sources of glare outside—sky and water.



Round Table panel

FOR THE AMERICAN INSTITUTE OF ARCHITECTS

Morgan Yost
chairman
Committee on Home Building Industry

Charles Goodman
Washington, D.C., committee member

John N. Highland Jr.
Buffalo, committee member

George Riddle
Glendale, Calif., committee member
former chief architect of Los Angeles FHA office

Donald Hann
Tulsa

FOR THE AMERICAN INSTITUTE OF REAL ESTATE APPRAISERS

Watson Bowes
president

FOR THE LIFE INSURANCE ASSOCIATION OF AMERICA AND THE AMERICAN LIFE CONVENTION

Milford Visser
chairman
Joint Committee on Housing and Mortgage Lending
vice president, Mutual Benefit Life Insurance Co.

John Jewett
vice president, Prudential Insurance Co.

Charles Van Anden
vice president, New York Life Insurance Co.

FOR THE MORTGAGE BANKERS ASSOCIATION

John D. Yates
chairman, FHA Committee
vice president, Stockton, Whitley, Davin & Co.

John F. Austin Jr.
president, T. J. Bettes Co.

FOR THE NATIONAL ASSOCIATION OF HOME BUILDERS

Richard Hughes
president

Earl Smith
1953 chairman
Construction Committee and of the Research Institute

Leonard Haeger
director, Construction Dept.
and Research Institute

Chris O. Christenson
asst. director
Construction Dept. and Research Institute

Jack Beatty
Miami, regional vice president

Frank Collins
Philadelphia, member executive committee

J. J. Carey
Denver

Joseph Goldman
Chicago

Martin Jaska
Pomona, Calif.

Andrew Place
South Bend, Ind.

David Slipher
Los Angeles

Irwin Jalonack
vice president and chief mechanical engineer
Levitt & Sons, Inc.

FOR THE NATIONAL ASSOCIATION OF MUTUAL SAVINGS BANKS

Harry Held
chairman, Committee on Mortgage Investment
vice president, Buxley Savings Bank



Photos: R

FOR THE NATIONAL RETAIL LUMBER DEALERS ASSOCIATION

Clarence Thompson
chairman, Lumber Dealers Research Council

Chester Hubbell
president, C. T. Hubbell Lumber Co., Albany

Charles Segal
general manager, L. Grossman Sons, Inc.
Quincy, Mass.

FOR THE PREFABRICATORS

Frank P. Flynn Jr.
executive vice president
National Home Acceptance Corp.

William J. Messingschlager
assistant to the president
US Steel Homes

Howard Vermilya
vice president
American Houses, Inc.

FOR HOUSING RESEARCH

Dr. Clifford F. Rassweiler
chairman, Building Research Advisory Board
vice chairman of the board
vice president for research and development
Johns-Manville Corp.

Prof. James T. Lendrum
director, Small Homes Council
University of Illinois

William Scheick
executive director
Building Research Advisory Board

ECONOMIST

Miles Coleman
construction economist
Washington, D.C.

CHAIRMAN

P. I. Prentice
vice president, TIME Inc.; editor and publisher, HOUSE & HOME

Action follows fast after Round Table protest to Hollyday and King on valuations

On December 16 and 17th, spokesmen for every key group in homebuilding met around a HOUSE & HOME and LIFE Round Table to tell FHA Commissioner Guy Hollyday and VA Loan Chief Bert King that FHA-VA appraisal policies are discouraging better housing. Their unanimous report and recommendations fill the next ten pages.

Commissioner Hollyday and his associates from FHA insisted that some of the criticisms were too sweeping and others were unfair, but he is moving fast to correct many of the valuation practices that drew protests at the Round Table.

Specifically:

1. He is inviting a member of the Round Table panel to come to Washington and advise him on his architectural set-up.
2. He has begun negotiations with the Building Research Advisory Board for help in bringing FHA up-to-date with technological progress.
3. He has gotten word around to everybody in FHA that FHA is just as much interested in encouraging better houses as it is in encouraging cheaper houses.
4. He has reasserted his strong stand that FHA must accept and encourage contemporary design.
5. He has strengthened his technical staff and made it more directly responsible to himself.
6. He has instructed all FHA offices to tell builders they need no longer file itemized cost estimates with their commitment applications.
7. He has instructed all offices to advise builders informally what valuation credit they can expect on optional features, so builders can tell customers how much added down payment each such feature will require.
8. He has instructed all district offices to give more recognition to higher overhead on more expensive houses.
9. He is giving careful consideration to the problems involved in asking the Civil Service Commission to give higher classification to some of the key field jobs in the underwriting division in order to make the pay high enough to attract and hold better men. **Other action will follow shortly.**

GOVERNMENT OBSERVERS

T. Bertram King
Loan Guaranty director
Veterans Administration

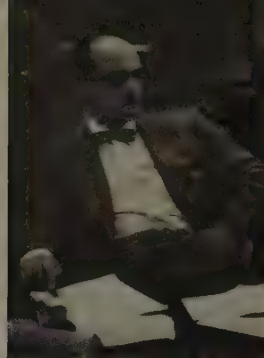
Guy T. O. Hollyday
commissioner, FHA

Walter L. Greene
deputy commissioner, FHA

Edmund D. Cronon
assistant chief, architectural section
Underwriting Division, FHA

Byron Hanke
chief, Land Planning Section
Underwriting Division, FHA

Alfred W. Jarchow
technical officer
Underwriting Division, FHA



Lendrum:

*"All these other things
could be solved
if FHA had the right people..."*

FHA and VA appraisals are delaying progress toward better quality and design in houses



Hollyday (center): "My staff is here to learn..."

Greene (at his right): "We have tried to get Civil Service to let us pay more."



Hubbell (center below): "FHA can't help until they educate their inspectors..."

Riddle (right): "They have that negative approach!"

Segal (left): "FHA is no advantage to the small house builder."

We are all deeply appreciative and sincerely grateful to FHA Commissioner Guy Hollyday, Deputy Commissioner Walter L. Greene, VA Mortgage Chief Bert King, and their associates, for meeting with us to consider how FHA and VA appraisal policy and practice can contribute more effectively to housing progress.

All of us realize that FHA and VA are the best things that ever happened to the home-buying public and the homebuilding industry. All of us realize that FHA has made a great contribution to better housing by putting a coast-to-coast floor under homebuilding standards and forcing all housing to meet those minima. All of us realize that FHA and VA have enabled millions of families to own far better homes than they could otherwise afford.

But these chief executives of FHA and VA did not join us at this Round Table to hear such praise repeated. They have called for plain talk and creative thinking. They have asked us to pool our experience from every section of the country and our knowledge of every aspect of homebuilding for a composite picture on just one question—the question of how FHA and VA appraisal policies and practices are today affecting housing quality and housing progress—for better or for worse.

Our report will concentrate on FHA and its problems, but many of our comments hold equally true for VA.

Correcting what is wrong with FHA and VA appraisals offers a great opportunity to the new heads of the federal housing agencies, for without good appraisals FHA and VA can have no sound foundation on which to build their programs.

By wise and understanding appraisals truly reflecting the values added by better planning, better design and better materials, FHA and VA can encourage builders to offer higher quality and better values. By unenlightened appraisals FHA and VA can block the path of housing progress, for few builders can afford to put much money into qualities and features which will not get full credit in their appraisals, nor can they venture experiments and improvements if they fear those experiments, even if successful, will reduce their valuations.

Appraisals are the one critical housing problem the President's Advisory Committee on Housing Policy did not try to solve. But unless the present faults in FHA and VA appraisals are corrected, the success of all other solutions and all other programs will remain in doubt and jeopardy. Without good appraisals, how can FHA underwrite the government's plans for better new homes? How can FHA underwrite its plans for improving and rehabilitating existing housing?

And on this hard truth all of us are agreed—architects, builders, suppliers, lenders, appraisers and research scientists alike:

Since the war the appraisal policies and practices of FHA and VA have been an adverse factor on housing quality and progress. FHA has become a leveling influence rather than an upgrading influence—leveling up from the bottom, but leveling down from the top.

In broad terms, we are agreed that in its appraisal policies and thinking:

1. FHA has not kept pace with the revolution in homebuilding which FHA itself made possible (see p. 147).
2. FHA has not kept pace with the revolution in architecture which offers homebuilding its best hope of providing better living at less cost (see p. 149).
3. FHA has not kept pace with the revolution in technology which is obsoleting almost every construction feature of the pre-FHA house (see p. 148).

As a result we are agreed that:

1. FHA has discouraged builders from offering quality beyond the minimum property requirements by not giving adequate credit for its added cost.
2. FHA has blocked progress toward better design by penalizing design change and innovation in its valuations, often by as much as 20%.
3. FHA has delayed the adoption of better new materials and more efficient new construction methods, sometimes by long procrastination* and sometimes by flat refusal to approve technical advances.

Even if none of these indictments is true, the mere fact that almost all builders believe them to be true has almost the same unfortunate effect. If a builder believes he will get no higher appraisal with a \$400 heating system than with a \$237.50 installation, his decision not to spend the extra money will probably be the same whether his belief is well-founded or not.

The FHA and VA executives at our Round Table have ably explained their valuation system and argued that such a system should not discourage quality or progress. In reply we can only say there is a great difference between government appraisal policy as they have expounded it and government appraisal policy as we have experienced it in the field. There is also a great difference between appraisal practice from office to office. If FHA appraisals everywhere were made as the underwriting manual prescribes, the problem would be much less serious.

In theory, the appraisers give full credit for the higher costs of quality features, provided they do not make some one part of the house too good for the remainder of the house or make the house itself too good for its neighborhood. In practice this is not so. Builders find it comparatively easy to get full credit for the cost of meeting the minimum property requirements with conventional design. They find it difficult to get full credit or even adequate credit for anything better.

On quality houses, most builders find they can get higher valuations for conventional financing.

* In the past year Washington time lag on approving new techniques has been cut from six months to four weeks.

Here are 13 recommendations to improve FHA-VA appraisals

There is no quick and easy way to correct the influence FHA-VA valuation policies and practices are having on housing quality and housing progress. This is a very complex problem calling for a complex answer—an answer which will require new attitudes, new concepts, new standards, new research, new organization, new people—and almost certainly more money to pay for better appraisals. Specifically, it will require:

1. A new attitude throughout FHA and VA towards quality, a new willingness to accept change, and a new acceptance of contemporary design.
2. A new frankness about appraisal methods and procedures, an end to mystery and an end to fear. Too few architects and builders have any confident understanding of how to improve their valuations as they improve their designs and specifications. Too many builders are afraid to question or challenge the valuations they get for fear of reprisals on their next houses.
3. A new issue of dynamic instructions to the field and then better supervision to assure more uniformity of appraisal practice from office to office.
4. A better realization of the revolutionary changes FHA and VA financing have brought to homebuilding. An appraisal system designed to police a chaotic handicraft is not likely to be the best system to raise standards in an assembly-line industry.
5. Some completely new thinking about valuation. Is it true that a house cannot be worth more than it cost plus a small fixed profit?
6. A new willingness in Congress to let FHA spend enough of its income to attract and hold architects and appraisers good enough to meet their difficult responsibilities.
7. A new set-up in FHA which will restore independence to the technical section in Washington, giving it freedom to approve and encourage good new products and good new methods and giving it authority to approve them not for one office but for every FHA office in the country.
8. A fresh revision of the minimum property requirements worked out in collaboration with the various groups that are contributing to homebuilding progress.
9. A new program for continuing review of FHA-VA standards. This program should take full advantage of such private enterprise research facilities as can be tapped through the Building Research Advisory Board and such field-testing facilities as are available through the Research Institute of the National Association of Home Builders.
10. Some simple procedures for appraising a basic house plus or minus various optional features a builder would like to offer as part of his package, so that a builder can tell the prospective buyer in advance just how much of the added cost of these various features can be covered by the mortgage and how much has to be added to the down payment.
11. A clearer understanding that tomorrow's house will include far more equipment and far more built-in furniture and a greater willingness to include these built-ins in the valuation.
12. A new design quality adjustment like the construction quality adjustment to let appraisers give a premium valuation for superior planning, livability, and appearance.
13. A new deal on minimum-income requirements to let buyers qualify for more expensive homes, if the builder can show that the added first cost will reduce the monthly maintenance more than enough to cover the increased interest and amortization.

Here are just three examples of the good truer valuations could quickly achieve

Like the power to tax, the power to appraise is the power to destroy, to prevent, to discourage. But it is also a power to create, to encourage, to hasten. In fact, we believe better FHA-VA appraisals—truer and more farsighted appraisals—might prove the greatest single influence to help American families get better homes at prices they can afford.

Consider just three examples where FHA-VA appraisals could exert a tremendous influence for good by reflecting true value more accurately:

1. Everybody knows that a house with adequate wiring is a better buy, and everybody knows that adequate wiring means providing for increased future loads without requiring the costly installation of additional circuits after the house is finished.

If FHA would advise builders that inadequate wiring will be discounted in its appraisals and, conversely, the added value which can be assured at small cost through better circuits will be fully reflected, we believe the overnight effect on wiring standards would be very great.

2. Everybody knows that kiln-dried and grade-marked lumber gives home buyers greater assurance of quality construction. If No. 3 lumber is used where No. 1 is called for, the harm can never be made good later.

If FHA would make it known that its appraisals will cover the cost of using kiln-dried lumber and, conversely, will be lowered to reflect the uncertainties present when grades are not marked, we believe home buyers could be assured overnight of better-built houses.

3. Everybody knows that most local building codes are loaded with requirements which are as useless as they are costly. Their only purpose is to create unnecessary work and expense. Up to now FHA appraisers have sanctioned, upheld and, in effect, subsidized the featherbedding waste entrenched in these local codes by adding the cost of these wastes to their valuations, regardless of whether it added anything to the true worth of the house. The more wasteful the code, the higher the appraisal.

If FHA would make it known that from now on its appraisers can give no replacement cost credit for meeting certain specific code-imposed standards which add little or nothing to true value (such as, for example, metallic cable for wiring), FHA would be giving a tremendous push to code reform at the same time it was making its appraisals a truer reflection of value.

Today the odds are loaded against quality at every step in the appraisal procedure

The odds are loaded against quality by the rule-of-thumb methods by which FHA replacement cost estimates are made. They are loaded against quality by inadequate differentials in the physical security rating. They are loaded against better design by the arbitrary penalties the construction examiner can impose on any departure from conventional styling. They are loaded against good design by the \$50 top most FHA offices allow for architects' fees—a top which could almost rule out the employment of any but architectural hacks. They are loaded against quality by rule-of-thumb methods under which all comparable houses in the same section are leveled out to roughly the same valuation in the market price estimate. They are loaded against quality by the ceiling placed on valuation by the capitalized rental estimates—a ceiling which could mean that only those quality and design features that assure higher rents can add to the appraisal.

But the most serious deterrents to better quality and better design in the FHA appraisal system are these:

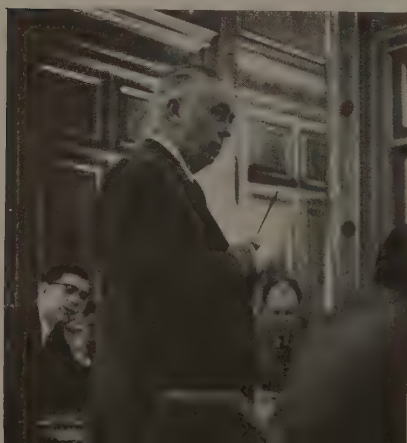
1. No added expenditure for quality can be reflected in the final valuation unless it gets by each and every one of these obstacles. The rule provides that the final valuation shall be the lowest figure arrived at by three separate methods of appraisal.

2. The builder has no basis for confidence that any extra expenditure for quality of materials or quality of design will be reflected in his appraisal. Lacking that confidence, how can a builder be blamed if he plays safe and sticks close to conventional design and minimum standards, where he can be sure his full costs will be reflected in his appraisal?

And even if a quality feature gets by all these obstacles and gets full credit in the valuation, FHA imposes one final penalty on quality. Its minimum income requirements do not give adequate consideration to the lower maintenance costs in a well-built house using better materials and better equipment.

We believe it would be easy to show that, counting maintenance, interest and amortization together, it would be cheaper to live in a quality house than in a minimum standard house costing even \$2,000 less.

The discrimination against quality we have just briefly noted is so fundamental that it needs a fuller explanation.



Collins:

"There never was a more secretive fraternity... a hell of a good system to confuse the builder."



Flynn:

"We have to overcome prejudices in the FHA offices."

Bowes (right): *"The attitude of the government officials here is very encouraging."*

Jewett (left):

"Code situations are getting worse."

Defects in the security rating

1. Inadequate differentials are applied. One house may pass with a rating of 51, another may pass with a rating of 95. But no member of our panel believes this 85% difference in rating would be translated into more than a 5% difference in the appraisal.

If a builder with a physical security rating of 51 can come so near to getting the same appraisal as a builder whose rating is 95, what incentive does this offer builders to put better value into their houses?

2. The quality construction adjustment is neglected. In FHA theory the best builders in each district should get an extra 5% for good workmanship; the poorest builders should be penalized 5%. In practice we believe few FHA offices apply this full differential.

3. Quality design cannot be rewarded. All of us believe that good design and planning can add more than any other single factor to the value of a house, but the security rating provides penalties but no positive rewards for any deviation from stock-plan architecture.

In theory, quality workmanship by the mechanics is supposed to earn a premium appraisal, but not even in theory is there any provision for a premium valuation to recognize the architect's superior design for better living. In practice, on the contrary, any effort to offer progressive architecture is apt to bring a heavy penalty or an outright rejection for "nonconformity."

Perhaps the outstanding example of FHA appraisers' misguided attitude toward design is the house the American Institute of Architects picked as the best builder's house of 1950. FHA turned it down cold for mortgage insurance. Somewhat similarly, FHA refused, on the grounds of unusual design, to insure a mortgage on *House Beautiful's* Pace Setter of 1953. Again, VA imposed a \$1,000 design penalty on an architect-designed house in Tulsa that HOUSE & HOME selected to symbolize the 1954 house on its first 1954 cover—a house that has since won two awards from the National Association of Home Builders—and FHA has so far balked at approving any mortgage at all on the project!

Discrimination in the cost estimate

Here quality suffers because the FHA architect usually saves time by using the same unit costs for the parts and equipment used in a good house that he would use for the parts and equipment used in a minimum house. The FHA officials here today assure us that this is contrary to FHA instructions, but nonetheless we believe it is the practice from coast to coast.

For example, in Los Angeles a forced warm-air heating system for tract houses goes into the cost estimate at \$237.50 (the lowest bid to be found), even though the builder may have paid \$400 for it and even though it is commonly agreed that a good heating system cannot be installed there for less than \$400.* And the water heater goes in at \$60 regardless—the installed price of the cheapest heater with only a one-year guarantee.

In Miami, all interior doors from the cheapest to the most expensive go into the cost estimate at a flat price per opening; all terrazzo floors go in at the same price per sq. ft., all kitchen cabinets at the same price per running foot; all washbasins, whether big enough or not, go in at the price of a minimum lavatory.

In South Bend, all wiring systems go in to the cost estimate at the same \$5 per outlet whether quality materials are used or not, (viz. 39¢ switches or 19¢ switches), whether the house is served with a minimum 60-amp. entrance box or with a 100-amp. entrance box, whether the wiring behind the outlets provides for increased future demands or not.

Even in San Francisco, one of the best FHA offices, new trees go into the cost estimate at the same 85¢—the price of a very small whip sapling.

Inasmuch as the maximum FHA valuation on the house can in no case exceed the replacement cost figure obtained by adding up all these minima, it follows that the FHA-VA valuation is almost bound to penalize the builder who installs a good furnace. It is almost bound to penalize the builder who provides better doors, better cabinets, bigger trees. It is almost bound to penalize the builder who recognizes the tremendous increase in the use of electrical appliances throughout the house and tries to provide wiring which will prove adequate for expanding needs.

In the face of such leveling down in the appraisals, is it any wonder that not one builder's house in ten is adequately wired? Is it any wonder that builders' tracts must wait too long for shade trees to grow? Is it any wonder washbasins are too small?

Nobody gains by the way quality is sacrificed by this kind of appraisal. The home buyer soon finds himself saddled with unnecessarily heavy maintenance and replacement costs. The lender often finds the borrower's ability to meet his mortgage payments seriously impaired by the maintenance drain on his income.

Here are some specific instances of what this appraisal pressure for lower quality cost the buyer of the house—the man FHA is mandated to protect and help:

His \$237.50 furnace will have to be replaced within a few years and the replacement cost may well be around \$600—far more than the cost of installing a good system in the first place.

His hot-water heater with a one-year guarantee is marvelously engineered to wear out in 13 months and will have to be replaced, again at a cost very much greater than the cost of installing a quality heater with a ten-year guarantee in the first place.

Within a few weeks the new home owner may find it necessary to spend upwards of \$100 for more adequate wiring which could have been provided for a third as much while the house was being built.

* The Los Angeles FHA office denies this.

Only good appraisers can make good appraisals; FHA should be allowed to pay good men better

Some among us believe the trouble with FHA appraisals is primarily a problem of men rather than a problem of methods, and all of us agree that:

- ▶ Able men can make even the worst system work, and there are FHA offices where the present system is giving satisfaction.
- ▶ Nothing in the FHA manual calls for less-favorable appraisals on houses with good design and better quality than on houses with hack design that just meet the minimum property requirements. Quite the contrary. And nothing in the FHA manual says minimum houses are a better mortgage risk than good houses.
- ▶ FHA needs more good men on its architectural, technical and appraisal staffs, though it would be completely unfair to blame all the faults in FHA practice on any group of individuals.
- ▶ The very first step FHA should take toward better appraisals is to make sure all its architects and appraisers are men with the experience, judgment and imagination needed to do their job right.

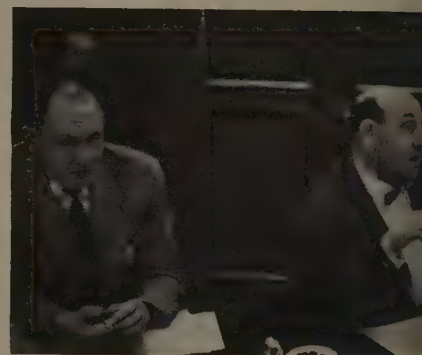
To that end we unanimously recommend:

1. FHA should be allowed to pay its architects and appraisers enough to attract and hold good men without the very real personal sacrifice required by its present inadequate pay standards. Their salaries now are considerably less than competent architects and appraisers can earn in private practice. They are, in fact, less than the wages of a carpenter foreman or a real estate salesman. *The wonder is that FHA has been able to hold on to as many good and dedicated men as it has.*

2. FHA should be allowed to spend enough of its income to employ enough good men to do the job.

3. FHA's authorization should be put on a more flexible basis, so that FHA can take on more men as needed to meet any sudden increase in the volume of appraisals it is called upon to make and the volume of mortgages it is called upon to insure.

All of us agree that the FHA Washington office is seriously understaffed, especially on the technical side (for example, there was only one man working on mechanical problems at the time of our meeting and only two men are working on land planning). All of us agree that some local offices are understaffed for their present volume of business and still others would find themselves understaffed to handle the volume they would attract if they were functioning promptly, efficiently and constructively. In other words, the FHA field staff may be able to handle its present work load after the current reduction from 4,100 to 3,500 men, but it could not do so if each office were functioning smoothly enough to attract its full quota of business.



Jalonack (center):

"You can't get the top men unless you pay them."

Slipher (left):

"You may put in a Cadillac, but the appraiser gives you credit for a jeep."

All of us believe the budget bureau is being penny-wise and pound-foolish in trying to make arbitrary cuts in FHA spending

The treasury has little or nothing to gain from enforced parsimony in FHA, since FHA is supported entirely out of its own revenue. Not since 1941 has a penny of the taxpayers' money been used for its operation, and before long FHA will have paid back the last of the Federal money with which it was started.

The only possible cost of FHA to the taxpayer is the contingent liability of \$15,500,000,000 on the mortgages FHA has insured. To the extent that the FHA appraisals have been sound, this contingent liability need cause no alarm. To the extent that FHA appraisals have been unwise, the federal treasury may have to make good on the appraisers' errors in judgment. Either way, the budget bureau should find it more profitable to allow FHA enough money to operate a good underwriting section than to starve the agency to a point where its appraisals are open to question.

FHA has not kept up with the revolution in homebuilding FHA itself made possible

FHA financing has revolutionized homebuilding and transformed it overnight from a handicraft to an assembly-line industry. But this FHA-born revolution is not yet reflected in FHA's own approach to appraisals.

The FHA risk-rating system was worked out when it was expected that the great majority of houses would be built by individual builders for individual owners. This is no longer the case. Today builders erect 82% of their houses for sale, most of them to customers the builder and his architect have never laid eyes on when the plans and specifications are fixed.

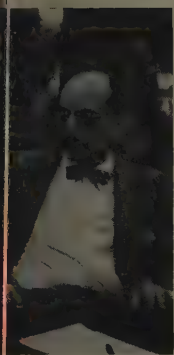
Before FHA, the customer could usually be consulted to learn whether he would be willing to pay for this or not pay for that. Today's builder and today's architect can get no such help from the buyer. They must make a long series of independent decisions on where to spend more money and where to spend less. And the question they will most often ask themselves is whether the added expenditure can be covered by the mortgage (in which case it will probably stimulate sales), or must be added to the down payment (in which case it will probably reduce sales).

Despite this revolution in the industry, the FHA approach to valuation is still essentially negative, designed to police a chaotic and backward handicraft, but ill-suited to encourage progress in a dynamic, competitive industry. It reflects yesterday's problem of an appraisal made directly for an owner-occupant and unconsciously carries forward an archaic animus against the modern merchant builder.

What we need now for today's homebuilding industry is a far more positive and dynamic approach and a valuation system intelligently calculated to make it at least as profitable for merchant builders to offer better quality, better design, better value. We also need an appraisal system which will make more adequate allowance for the higher overhead which makes low unit costs possible, and the sales expense which was hardly contemplated when FHA was first started.

And in this day of assembly-line and often prefabricated housing, many of us are even beginning to question whether or not it makes sense to limit the valuation of a house to a sum arrived at by adding up the assembled costs of its parts and then adding a fixed allowance for overhead and profit. No one would dream of setting such a limit on the value of an automobile or any other industrialized or semi-industrialized product. The object of every successful business enterprise is to develop a product that is worth more than it costs. And if a smart architect-builder team can develop a house whose value is far greater than the assembled cost of the materials they use, we can see no good reason why the value added by better judgment and greater skill should be written down by the FHA or VA appraisers to the same level as a house into whose planning less thought, good taste and inventiveness were put.

As long as the valuation cannot exceed the accumulation of replacement costs FHA is bound to exert a discouraging pressure on progress and a discouraging influence on ingenuity.



Place:

... "A sort of hocus pocus voodoo deal. If you want to get into a snow job, ask the cost man some questions."



Scheick:

"The system lends itself to mysticism and personal vagaries."

FHA must catch up with technological progress that is fast obsoleting yesterday's house

More scientific research has been applied to homebuilding in the 20 years since FHA began than in all previous centuries, and the speed of technological advance has accelerated far beyond anything FHA is organized to match.

Almost everything about today's house is new since 1934, or at least newly brought into general use. Slab floors, roof trusses, dry wall, plywood, plastics, insulation, asbestos and aluminum siding, radiant heat, forced warm air, summer cooling, double glazing, awning windows, shutters, storage walls, asphalt tile and roofing, stressed skins, three-wire circuits, garbage disposers, built-in furniture and fixtures, rubber-based paints—all these and many other features were almost unknown two decades ago.

To keep up with such rapid progress FHA needs a technical division that will be correspondingly fast on its feet, aggressive, and eager to help home owners and homebuilders profit by every good new method and every good new product. How can FHA hope to develop such a forward-looking program as long as it subordinates its technical staff to an underwriting division which we consider openly and unashamedly hostile to innovations?

The functions of a technical division and an underwriting division are almost antithetical.

The latter is rightly concerned with protecting investors against undue risk resulting from any premature use of products or methods whose soundness is not yet proved. The former should be concerned with getting better products and methods accepted as quickly as possible. The one function is negative; the other is positive. We believe they should be balanced off in the FHA organization in what might be called a two-platoon system, with both responsible directly to—and coached directly by—the commissioner himself. This is the way FHA was set up before 1940, and we believe it is the way FHA should be set up now.

No matter how much the technical division is strengthened, the underwriting division will still have great power to obstruct progress by penalizing anything unfamiliar in its appraisals. To balance this negative power we recommend:

1. The technical division should take the initiative in educating the district offices on better new methods and products, taking care to explain their implications and their proper use.
2. Once the technical division has approved a new method or material, its approval should be binding on all FHA offices. It is unfair and absurd to make the sponsors of each innovation sell it from FHA office to FHA office, and it is nonsense that any FHA office should be free (as recently happened) to veto such a proved economy as truss framing for roofs.
3. When a builder appeals to Washington on a valuation he considers unfair to some innovation the technical division has approved, the technical division should stand ready to help him plead his case.



Riddle: "Guy's hands are tied by Civil Service"

The technical division should be headed by an eminent technician whose opinions would be respected, and it should have a big enough staff to function promptly and efficiently—a staff considerably larger than today's.

But the FHA technical division cannot afford to compete with the tremendous research facilities created by private industry over the past 20 years, and it should make no attempt so to compete. It should, on the contrary, take full advantage of all this private research, and concentrate on getting its benefits realized more broadly and more quickly.

As questions arise calling for technical information beyond what is commonly known or clearly established, FHA should ask the Building Research Advisory Board to get the needed facts from private industry. When field tests are needed, it should call on the Research Institute of NAHB.

A further means of maintaining technological alertness would be the establishment of a Technical Advisory Committee comprised of experts from industry and the design professions. The functions of such an advisory committee would be to observe and report FHA practices to the commissioner, to make recommendations for revisions in the underwriting manual and the minimum property and construction requirements, to assist in developing methods for encouraging innovation, and to consider such special technological questions as the commissioner might put to it. The organization of such a committee would be facilitated and its prestige and effectiveness enhanced if it were established under the auspices of the Building Research Advisory Board of the National Research Council.

FHA has misunderstood

the revolution in architecture

and delayed its progress



Rassweiler: "This has got to be a dynamic industry and that means constantly doing something for the customer."

The FHA appraiser's attitude toward progress in design has been shortsighted as it has been harmful. It has been harmful because it forces the great majority of builders to pass up the advantages of better livability and greater economy offered by contemporary design. It has been shortsighted because ten years from now the market acceptance of houses whose plan and design were already 20 years out of date when they were built will surely be much lower than the market acceptance of houses which were abreast of up-to-date design standards when they were first offered for sale.

Some of the blame for the obstacles FHA has placed in the path of architectural progress must fall on FHA architects who could not adjust themselves to the sea change in architectural standards since FHA was started. Some of the shortsightedness reflects the average mortgage lender's dangerous preference for looking backward and financing the kind of houses which used to be good mortgage risks a generation ago.

Too few mortgage lenders realize that fashions in housing change just as fashions in everything else. Anyone with a smattering of architectural knowledge can tell from its style the approximate year when a given house was built, just as anyone seeing women pictured in crinolines can fix the date in the sixties; women wearing bustles in the eighties; women wearing peek-a-boo waists at the turn of the century.

As styles in houses change, their marketability changes too. The boxlike cubes which were so readily acceptable in 1910 were hard to sell in 1925. The imitation Spanish and imitation half-timbered houses which were so popular in 1920 were hard to sell in 1940. The so-called Dutch Colonial of 1929 is out of date today.

In all these architectural style changes there is a time lag between architectural acceptance, builder acceptance and popular acceptance. The public is always 10 to 20 years behind the architect in accepting any new housing style, just as Main Street lags behind Paris on women's fashions.

Many architectural experiments fail to catch on, just as many dress style experiments on the Rue de la Paix are quickly dropped. But once a design trend has clearly established itself with the architects it follows as the night the day that before too many years this same design trend will win public acceptance too; that houses which reflect this design trend will have good marketability and that houses which do not reflect this design trend will have less marketability.

Consequently we are almost unanimous* in affirming that:

Long before their mortgages are paid off, houses built today in what is now called "contemporary design" will have a far better marketability than houses built today from designs already 10 or 20 years behind the times.

In past decades many changes in architectural taste were changes in style alone. There was no special reason why Spanish houses should have been so popular in 1920, and no special reason why Dutch Colonial should have been so popular in 1930. But today's contemporary design reflects a basic and fundamental change in purpose and direction whose significance appraisers and lenders cannot afford to underestimate.

Today's contemporary design is not just a matter of flat roofs and big glass areas. It is a long overdue emancipation from the foolish effort to make houses built in twentieth-century America look as if they had been built in sixteenth-century England, seventeenth-century France, eighteenth-century Massachusetts or nineteenth-century Spain. For the first time in nearly two generations architects are now concentrating single-mindedly on how best to use today's resources and today's construction methods to create the best houses for today's way of living. They are borrowing space from all outdoors to provide big-house spaciousness on a small-house budget. They are reflecting America's new love for outdoor living. They are adjusting their plans to the new age of electrical servants. They are making housekeeping easier and taking advantage of all kinds of new materials and new machinery—from plastics to insulation to air conditioning—to make houses far more comfortable and far less costly to maintain. And they are developing a new esthetic and a new approach to beauty better suited to today's mass production than yesterday's fussy detailing, which today's labor costs make prohibitively expensive.

As more and more families learn how much better a real 1954 house can be than a 1954 imitation of a 1754 cottage, it will become harder and harder to sell the kind of houses the FHA appraisers have been encouraging for the past decade.

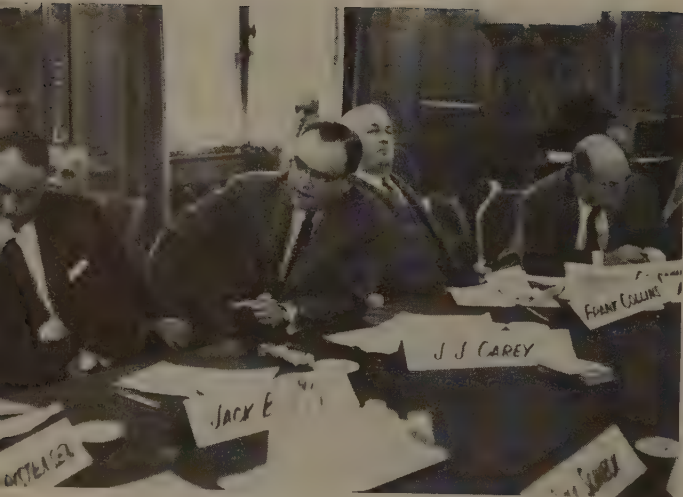
Highand (below, center): "FHA could help to educate the bankers"

Goodman (right): "FHA appraisals give the builder no incentive... science has not been brought to bear on the M.P.R."



*One member of the panel did not concur in this section of the Round Table report.

The influence of FHA and VA appraisals touches every home for the average man



Carey (speaking): "A builder cannot get a higher valuation if he gives the buyer a better value at less cost."

Beatty (left): "No matter what I specify the appraiser uses the same unit cost he has in his book."

Goldman (right): "You can have lousy architecture and still get the same \$50 credit for design."

In planning homes for sale, few builders feel they can afford to think first about what kind of house will be the best value for the money. Most builders try to build the kind of house that will get them the highest valuation in proportion to its cost.

This valuation determines the financing the builder can get on his advance commitment and how much of his own money he must tie up in each house. More importantly, the valuation determines how big a mortgage the home buyer can get and how small a down payment he can make.

The whole purpose of FHA insurance and VA guarantees is to enable millions of average families to own far nicer homes by paying for them like rent than they could afford to buy if the cash payment had to cover any large part of the purchase price. FHA and VA make their greatest contribution to American living standards when they enable builders to offer better houses without forcing people to pay cash for too much of the extra value. Any sizable increase in the cash requirement to pay for better quality or better livability puts the house beyond the reach of millions of buyers.

In other words, any increase in quality or amenity which FHA appraisers will recognize in their valuations makes it possible for the buyer to enjoy a nicer home. But any increase in quality or amenity which has to be paid for in cash makes it impossible for the buyer to own the house at all.

There are two big reasons why builders will seldom find it good business to spend money for quality and value for which appraisers will not give them full credit:

1. The prospect's own appraisal of the house will be greatly influenced by the government appraisal. How can he help suspecting a house is overpriced if the FHA valuation does not cover the added cost of its quality features, with the result that a house priced at, say, \$12,000 is stigmatized with a \$10,500 appraisal from the US government?
2. Every increase in the required down payment makes the house harder to sell. An extra \$100 spent to make an \$8,000 house more livable and more lasting will make it more salable if the extra \$100 is covered by the mortgage. But it will make the house harder to sell if the extra \$100 is not reflected in the valuation and so requires an increase of \$100 (25%) in the down payment.

These FHA and VA appraisals affect almost every house built for the average American family.

It may be true that less than one-third of all mortgages carry FHA insurance or a VA guarantee, but before the mortgage crisis upset all normal financing patterns 73% of all new houses built for the mass market between \$6,000 and \$12,000 were financed with FHA or VA help, and the other 27% were financed by lenders who had to come close to meeting FHA and VA terms to get the business. In other words, the financing pattern for practically all housing for the mass market all over the country is set by these two agencies of the federal government in Washington.

We ask only that FHA appraisals be fair and stop discriminating against quality

All of us realize that too high appraisals from FHA and VA would be even worse than too low appraisals, for the success of FHA and VA financing depends very largely on the lender's confidence that the government appraisals are sound and not inflated. We also realize that every builder is trying his level best to push his own valuations higher, and we confess that almost every builder thinks of the appraisal process as a battle of wits in which he is justified in overstating his costs, on the theory that the appraiser will never allow him what he asks, so he had better ask for more than he expects.

Because we realize too high appraisals are as dangerous as too low, we want it clearly understood that we are not necessarily urging FHA and VA to make their appraisals more generous. We are just recording that under present policies and practices FHA and VA are discriminating heavily against houses with better quality and more progressive design. They are appraising cheap conventional houses at 100% of cost and appraising better houses with better design at a substantial discount. All of us feel this discrimination is lowering housing standards instead of raising them; i.e., it is defeating the announced first purpose for which FHA was created.

All we ask is that FHA and VA appraisals should be fair—fair and understanding and farsighted. We ask only that the appraisals should reflect the true long-term value of the property and give proper credit to the intangible but no less real values which can be added by better quality, better design, better taste, more efficient planning, better siting, better neighborhood development, better orientation, better color, greater flexibility, more economical standardization, lower maintenance, better storage, less wasted space.



Vermilya (right): "The builder must tell his complete story."

Yost (center): "Why shouldn't a good builder with good design make a bigger profit—even if his cost is just the same?"

Colean (speaking): "Everything said here about FHA applies to VA, too."



How to bankrupt slum owners

► A report in Chicago puts its finger on some financial pressures that can help end blight in any city

► Omaha adopts rehabilitation ordinance and Memphis votes to do so. Both will create new city departments

IN THIS MONTH'S NEWS

(see pp. 33 through 54)

Housing Bill would give President vast power over VA and FHA terms, shake up Fanny May, push low-cost and rehabilitation FHA loans

A tax suit threatens hundreds of millions of dollars of homebuilders' profits

Mortgage market: some brokers predict FHAs will go above par as lenders hunt choice loans

Six distinguished architects team up with builders to plan a 'research village' of houses with ideas others can use

Canada, adopting a new housing act patterned on the US model, sets out to insure loans for 40% less than FHA's price

As homebuilders, realtors and other civic-spirited citizens delve deeper into slum rehabilitation, they run more and more into bigger problems of good or bad city government. Twin results: 1) slower progress in some cities than rehabilitation enthusiasts originally predicted and 2) more and more plain and thoughtful talk about slums and what makes them.

There is nothing horrifying about slow progress. US slums grew to their present scope over a century; it will take decades at best to erase them. And in the mere fact that people are beginning to talk (and magazines and newspapers to print) the unpalatable truths of why slums persist lies an encouraging sign of awakening public opinion.

One deep-reaching analysis of slum-making emerged last month from Chicago's Citizens Committee to Fight Slums,* which had been quietly prodding down to the roots of the problem since last June. The committee, headed by Attorney Laird Bell—a tall, slender, gray and shy partner in one of Chicago's top law firms—recommended much that was already done or underway in Chicago's growing effort to fight slums. But its significant contribution to the nationwide attack on blight was a public display of three slum taboos.



BELL

Slums & race prejudice. One was a frank avowal that Chicago's slum problem is inseparably twined with its race problem.† Said the committee: "Our drifting policy of recent years has not only been timid and detrimental, but has prevented progress toward the solution [of the problems] . . . of in-migration [Negroes and Puerto Ricans], racial tensions and racial discrimination." The committee recipe: Negro areas must be dedensified by allowing Negroes "unrestricted access to land, both vacant and improved"; this will require "general acceptance" of open occupancy which "must rest on widespread educational campaigns supported by an official city and suburban policy of removing, rather than fostering, discriminatory barriers." At the same time, the committee suggested sterner enforcement of controls against overcrowding. It got right down to cases:

1. The Chicago Real Estate Board should get property owners to adopt a standard lease form providing automatic cancellation of leases if tenants permit overcrowding.

2. The Chicago Association of Commerce should try to persuade members to "assume full responsibility" for adequate housing for workers recruited outside Chicago.

3. The Department of Buildings must step up enforcement to make overcrowding "more difficult or impossible" and not stop

short of forcing owners to evict tenants.

4. Negro leaders "must initiate a concerted effort to discourage the continued inflow of people whose presence can only compound the present difficulties."

5. The City should work with the Puerto Rican government to stop "indiscriminate migration." (Chicago's welfare commissioner last month flew to Puerto Rico to spread the word that indigent migrants would be shipped home rather than given relief.)

Control migration? Some critics called the race recommendations unrealistic, but nearly everyone in Chicago applauded the committee for facing up to a problem that most Chicago counsels have tended to duck. Some contended the committee was just indulging in wishful thinking in suggesting that Negro and Puerto Rican immigration be controlled. Citizens all, they have as much right to move as anybody else. Philip Hauser, a University of Chicago sociologist who spoke at a follow-up conference on the report, suggested that Negroes will keep on moving to Chicago as long as Chicago's factories have an expanding need for cheap labor. Nobody disagreed that Negroes need more land. How and where to get it without opening up race sores remained the problem—in Chicago and other northern cities.

The two other taboos exposed: 1) the effect of restrictive practices by labor and the building industry on building costs, and 2) financial practices that make life easier for slum operators. On the first of these, the committee charged: "The many restrictive practices on the part of labor organizations, contractors and subcontractors contribute to excessive local housing costs. For example, it is a public secret that restrictions on the amount of work allowed to constitute a standard work day by the local building trades, together with other factors, make a given house cost more in Chicago than almost anywhere else in the

* "Housing Action Report of 1954" to Mayor Martin H. Kennelly.

† For other news of the relation of slums to minority housing, see p. 52.

country." The committee had virtually no remedy to suggest. For lack, apparently, of any better idea, it suggested a Congressional investigation aimed at amending antitrust laws. The committee blamed labor unions for costly and inefficient inspection procedures in the Department of Buildings. It said jurisdictional division of inspectors, partly the result of union pressures, requires "up to seven" inspectors for a single structure.

Financial malpractice. When the committee returned to financial practices that are lifeblood for slum operators, it produced a set of recommendations that could well be copied across the nation. It said: "The continued existence and spread of slums is aided and abetted by the operations of a few institutions which extend the protection of the trust device of slum operators, provide a steady flow of mortgage funds, encourage and assist the conversion of residential units and provide the necessary fire and other insurance." The committee called for four major reforms:

1. Courts should hold banks responsible for the condition of buildings for which they serve as trustees. Under Illinois' naked land trusts, legal title to slum properties can be held by banks or corporate trustees, thus shielding the real owners from identification and effective prosecution. (In recent fatal fires, city officials attempting to prosecute have bumped into this blank wall.) "A few banks with lax investigation policies have become notorious for handling slum properties," said the committee. It urged trustees to require covenants from owners that property is not being used illegally.

2. Mortgage bankers should refuse to make loans on buildings unless they comply with the building code. "Mortgages should contain a uniform default clause under which a violation of the housing, building or zoning laws would give the mortgagee the right to call a default. . . . An affirmative statement should be required from borrowers that the building does not produce illegal revenue and that all construction existing or contemplated is legal."

3. The Chicago Board of Underwriters and Lloyd Surplus Line Brokers should notify their members of buildings found in violation of fire laws. Said the report: "The operation of slums would be difficult, if not impossible, unless fire insurance were available. Most of the 'old line' companies do not make a practice of insuring slum property. Most (such policies) are written by a small group of specialized companies at penalty rates. . . . The companies which specialize in slum properties may 'lay off' as much as 80% of their business with a few large re-insurance companies."

How much effect such moral pressures would have on financial malpractices remained to be seen. The citizens' committee planned to stay on the job. In Chicago as in few other cities, it could count on strong newspaper support.

Ordinance in Omaha. Other rehabilitation developments:

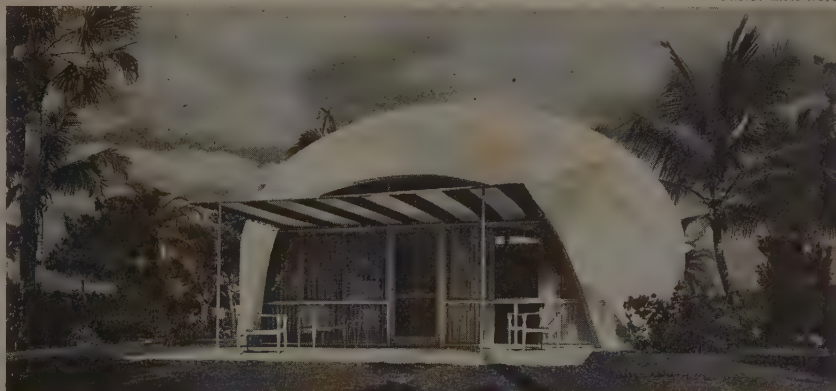
► Omaha (pop. 251,117) adopted a rehabilitation ordinance setting up a neighborhood conservation board. The move followed a successful pilot block rehabilitation project spearheaded by Omaha realtors led by N. P. Dodge Jr. (H&H, Oct. '53). Drafters of the ordinance took inspiration from laws in Indianapolis and Denver, ignoring Baltimore because they did not want the conservation office to be swallowed up by an existing city department (as it is in Baltimore) and thus deprived of enough stature to cope with the problem. The Omaha ordinance gave the conservation director, the board's salaried (\$6,000-\$9,000) executive officer, power to enter private dwellings with or without a complaint, but it placed main reliance on cooperative efforts against blight. As originally drawn, the ordinance called for fines of \$10 to \$500 and/or 90 days in jail for housing violations; it wound up with fines of \$5 to \$100 and/or 90 days. Mayor Cunningham named a promising five man board (which serves without pay): Charles Peters, real estate salesman; T. H. Maenner, one of Omaha's biggest realtors; Attorney Robert H. Peter-

son; Insurance Agent Arthur J. Hanson and Eugene Skinner, a grade school principal, City health officials persuaded Omaha that the conservation director must be a sanitary engineer with a master's degree in public health—a requirement most rehabilitation experts consider pure foolishness. Instead of the \$35,000 a year asked to start the program, the city put up a mere \$14,000. It was hard to see how that was anywhere near enough.

► In Memphis, the city commission approved plans to create a housing improvement department suggested by a citizen's committee to study urban rehabilitation needs of the city. Plans—still to be adopted in ordinance form—call for a \$57,000 annual budget for a 10 man department which hopes to have a pilot block rehabilitation project under way within 60 days.

► The AFL executive council, meeting in Miami Beach, declared its opposition to rehabilitation. Said the AFL: "Central emphasis in the administration's approach is on a rehabilitation or remodeling of existing dwellings instead of new construction. The housing needs of modern America cannot be met by a patch-up program. City and rural slums must be wiped out, not camouflaged."

Photo: Eliot Noyes



Big glassed openings give balloon houses a new look

The big problem with sprayed concrete balloon houses, ever since Engineer Wallace Neff first patented the process in 1942, has been to make them esthetically attractive. Early models were close to spherical, suffered the additional indignity of graceless fenestration. In the US, not two dozen have been built.

Last month, passersby at Home Sound, Fla. (27 mi. north of Palm Beach) gaped with amazed interest at the latest in concrete bubble houses—the first built to Connecticut Architect Eliot Noyes' new designs (H&H, July '53, News). By flattening the dome, slicing his 30' circle with 16' openings fore and aft and recessing windows and doors, Noyes had created the most graceful bubble houses yet. They are built by spraying Gunite over chicken wire held in shape by a nylon and neoprene balloon (cost: \$5,000 to \$10,000). Glass fiber insulation goes between two courses of concrete. Inside, partitions reach up only to the curve of the ceiling, letting the breeze that blows in atop the red and white porch canopy flow straight through the house. The bathroom is enclosed.

While the two model houses might sell for as

much as \$16,500 (if Owner J. V. Reed ever sells them), Noyes thinks the 600 sq. ft. bubble could be sold for about \$6,500 plus land on a mass production basis. The shell without interior finishing costs only \$3,250 (\$5.33 sq. ft.). Manhattan's Airform International Construction Corp., which holds rights to the balloon process, is dickering for FHA approval.





Which way should the lumber dealer turn?

To help his small builder customers compete

Should every lumber dealer turn prefabricator?

Many believe the lumber dealer holds the future of the small builder in his hands. Without help from the lumber dealer, how can the small builder compete with the economies and efficiencies that assembly-line construction gives the big builder and the prefabricator?

Now at last the nation's retail lumber dealers are getting ready to pitch in and compete with the prefabbers at their own game: precutting and preassembly.

Through a grant from the Lumber Dealers' Research Council the University of Illinois Small Homes Council has developed and field-tested a panel system it expects will save the average small builder 30% on labor in framing and sheathing a house.

Here are the most important features of the plan which the lumber dealers have adapted and call Lu-Re-Co for LUMber REsearch COuncil:

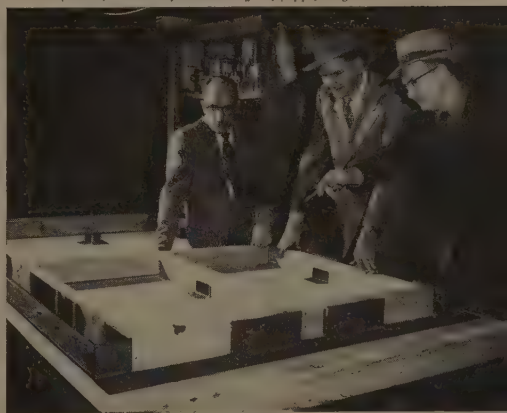
- 1. Prefabrication.** Lumber dealers would prefabricate enough 4' x 8' exterior wall panels (and roof trusses) to frame an entire house.
- 2. Preassembly.** Doors and windows would be fitted into the framing in the lumberyard.
- 3. Simplification.** Instead of buying so many board feet of 2" x 4"s, 2" x 6"s and 2" x 8"s, a builder would buy enough panels and enough trusses for his houses.
- 4. Standardization.** All panels would be 2' or 4' wide. All ceiling heights would be 8' plus a tolerance.

Most immediate savings would come from simplification, which will make it much easier for small builders to plan their operations economically, and from preassembly, which might reduce the cost of door and window installations 40%.

In the long run, the biggest savings would probably come from standardization. Already three of the leading window manufacturers are producing a new line of special windows that fit the panels.

The American Institute of Architects and the National Association of Home Builders have already recommended a ceiling height of 8' plus a tolerance (H&H, Mar. '51). The added support from the lumber dealers should encourage more manufacturers to develop more products, such as storage walls, stairs, bathtub enclosures, to fit such a standard height. Already lumber mills are beginning to cut studs and headers to standard building lengths.

Photos: (below) Public Information Office; (opp.) Hagel



Window panel in jig is checked by Small Homes Council staff: (left to right) James T. Lendrum, director; Ray Harrell, in charge of field testing; Rudard A. Jones, assistant director and panel project chief. SHC explains the system in its latest publication "Homes from Pre-assembled Wall Panels."

Uniform 2" x 6" lintel makes panels work together

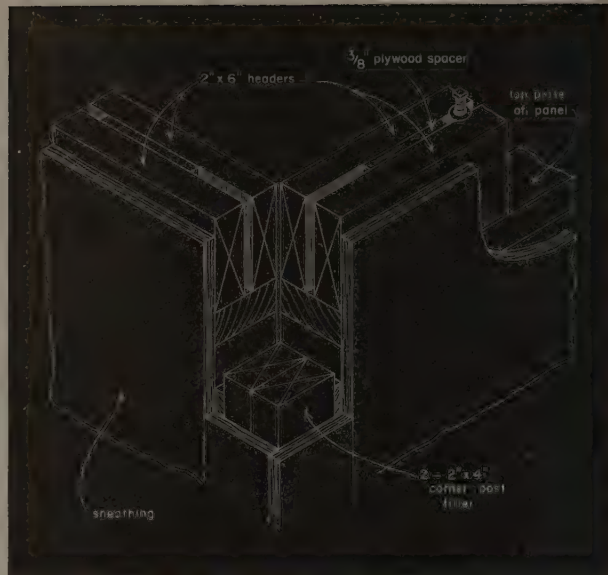
The important idea in the Lu-Re-Co system is not the panels which have been tried many times before. The real importance is in the double 2" x 6"s which form a continuous lintel to tie the structural panels together, much as the 4" x 8" beam ties Cliff May's preassembled panels together (H&H, July '53, p. 97). Like other forward steps in wood-frame engineering, the Lu-Re-Co system saves labor by using a little more lumber.

It offers the great advantage of making all the panels—solid panels, door panels, window panels—work together. It eliminates the need for cripples and heavy lintels above door and window openings. It ends any question about 2' truss spacing where studs are spaced 16" o.c. It works equally well with odd panel widths if the builder prefers them.

In effect, it converts the panel system to post-and-beam construction, with the intermediate stud serving only to reinforce the sheathing and wallboard as needed, and the load carried by the two studs at the end.

Use of the double 2" x 6" header involves half again as much lumber as in a conventional double 2" x 4" top plate, but this is largely offset by shorter studs and the saving of lintels and cripples. On a demonstration house the net added lumber cost was only \$6.50, a very small item compared with the double saving in labor: 1) less man-hours needed; 2) lower-cost labor in the shop than in the field.

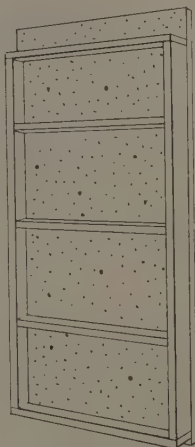
Almost everyone seems agreed that the Lumber Research Council has developed a good idea (see p. 158). Now the big question is how many lumber dealers are worried enough about the business and leadership they are losing to bestir themselves. The fact that only 247 of the 26,000 lumber dealers contributed to the research is hardly an encouraging omen that enough of them are interested in new ideas to help their customers.



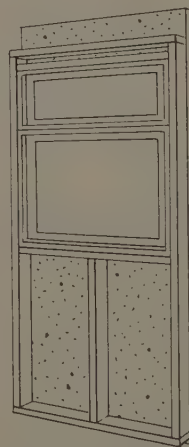
Basic panels are 4' wide, 7'-7 $\frac{1}{4}$ " high. Actual height of continuous lintel brings rough ceiling height to 8'-0 $\frac{7}{8}$ " (isometric, top). Used with trusses, panels permit open-room construction (photo above).



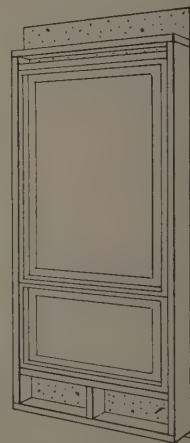
Studs can be cut, assembled, sheathing and vertical siding applied while solid panel is still in jig in 20 man-minutes. Exterior can be prime-painted in shop.



Solid panel with horizontal girts 2' o.c. takes more time to complete than panel with vertical members, uses more board feet, is designed for vertical siding only.



Privacy window panel for kitchens, bedrooms, bathrooms has 45" sill height. Panels take fixed glass, double-hung, awning, hopper, casement, sliding windows.



View window panel can be cut, framed, sheathing and siding applied, and window installed in 1 $\frac{1}{2}$ man-hours. Panel takes one fixed unit, one operating unit.



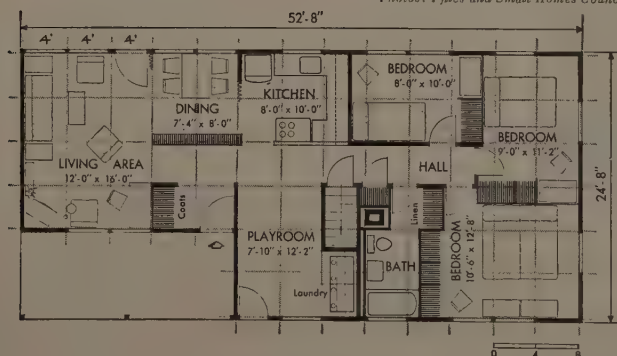
Building with parts instead of pieces

Two men can easily carry and erect individual panels for 1,000 sq. ft. house in day's time. Tying panels together on slab and tilting complete walls into place would be more economical but requires a six-man crew.



Door panels take 26 man-minutes to cut, frame. As in tilt-up construction, doors cannot be applied in jig because sill would fall below the base of the jig.

Photos: Pfiles and Small Homes Council



House dimensions are based on 4' panel width, thus 4'-wide sheet materials, can be used inside and out with minimum cutting. Panels still permit extensive plan and elevation variety.

What do industry leaders think of a 4' prefabricated panel?

'Somebody's going to whip the problem of the 4' panel'



Dick Hughes, president of NAHB (and also a lumber dealer):

"I've been trying to fit my operation to 4' panels for a year now and Ned Cole has been working on them for a couple of years. One of these days somebody's going to whip the problems altogether, if Lu-Re-Co panels haven't already done it.

"The advantage of panel building is greatest on scattered lots and for small builders. I'm sure builders will use it to get a lot of houses built. It may be some time before the full potentialities of the 4' panel are realized."

'Small builder's vehicle for modern mortgage financing'



Norman P. Mason, past president, NRLDA:

"I hope these panels will make it easier for small builders in small towns to get mortgage financing. With a uniform product the smallest builder should be able to get approved financing arranged so that the same VA and FHA terms available to the regular prefabricator are also available to him.

"Mortgage lenders should like this system because it gives them a broader field to work in and better houses to lend on.

"Panel construction could provide a prefabricated factory in almost every village and hamlet in America—a factory that could operate without the costly overhead and promotional expense of a national prefabricator. Panel construction provides a uniform variation of dimension that has all the advantages of complete standardization without monotonous sameness. I like it because it adapts itself to any style of architecture."

'Panels fit the small builder's operation like a glove'



Philip Creden, chairman, public relations committee, NRLDA:

"The reaction to the panels has been amazing. The interest shown has come almost too fast for us . . .

"Their biggest appeal is to the small builder in the small community because they are simplicity itself. They can be handled easily by two men, do not require expensive equipment; they are modular inside and out for economical use of sheet materials, even interior partitions could be made in the jigs.

"I can see a particular appeal for building with these panels in many small Southern towns where small plants are springing up and there isn't sufficient skilled labor available to make homebuilding economical. The small town lumber dealer's contractors have been drifting away from him; this should bring them back.

"The standardization of good design in small communities where FHA offices say design and structure of small houses do not compare with prefabricated values will be a natural result."

'Panelization cannot compete with prefabrication'



George Price, vice president, National Homes Corp., the nation's biggest prefabricator:

"This system focuses on just framing and sheathing a house and does it at a sacrifice in materials.

"It won't make much of a wave in the market. One reason: dimensional standardization won't catch on. We found that people in all parts of the country are basically the same, that they really want what they can afford; but you can't get thousands of independent dealers to see that. They insist that people in their area won't accept standardized houses. Stock plans for builders aren't the answer either: thousands of lumber dealers mean thousands of plan changes and a resultant loss in economy.

"Other economies lost are in volume buying: lumber yards cannot buy enough single items to save the purchasers much; in deliveries: lumber dealers make several small deliveries while we generally ship a whole house at one crack. We have even managed to ship economically as far as 350 miles."

'Another effective vehicle for selling more houses'

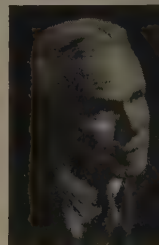
H. R. Northup, executive vice president, NRLDA:

"This is not just a way to beat the prefabricator at his own game. It's a way to sell more houses because it does what the prefabricator does—gets a house up quicker and at lower cost.

"Panel building is readily adaptable to resort towns, with a market for, say, ten houses and little local skilled labor to build them quickly.

"Manufacturers may find this worth while because it may help them to cut the number of window sizes they make—something I'm sure is uneconomical.

"I don't think anyone knows yet the full implications of the system because it's such a versatile tool."



'A step in the right direction'

Leonard Haeger, director, NAHB Research Institute:

"This is a step in the right direction, because it is leading more and more to standardization of building components. The lumber dealer becoming a component manufacturer is all to the good. And this system does make some of the economies of mass production available to the small builder through his lumber dealer.

"The fact that you're off one stud in this new system over conventional stud spacing (by the extra stud every 4') of course presents the problem of standardizing on another rough stud opening. But perhaps this will point eventually to all standard components working together.

"Frankly I had hoped this panel would be more advanced than it is: the National Youth Administration worked on a similar one back in '39 and '40. I realize of course the present panel is highly simplified to reach the lower levels of skill in assembly."



Photos: F. Bachrach; Linsion Studio; Sklar Studio; H. Staples Assoc.

'Adds the sex appeal of the small prefabricated house'



Russell Nowels, Rochester, Mich., chairman NRLDA merchandising committee:

"This whole program offers the opportunity to get sex appeal back into the small house the way the prefabers are doing it . . . fits in well with today's trend in providing bigger windows, better exterior appearance and more livability. Coupled with roof trusses the panels present a wonderfully flexible basis on which the small builder can come out with new models every year just like the automakers—and add improvements."

'Transfers building initiative back to the lumber dealer'



Joe Entress, Rochester, N. Y. is both a builder and a lumber dealer:

"Right now the building initiative in many small communities is with the small builder who has neither the physical resources nor the financial wherewithal to compete with bigger builders or the prefabricators. But if the small builder will accept the dealer as the basic source of supply, design and merchandising ideas through the Lu-Re-Co plan, the initiative can transfer back to the lumber dealer who can cope with the problems better."

"Unfortunately, the lumber dealer has almost lost his identity as a lumber dealer because he handles so many other products. He must be shaken out of his apathy or complacency because he needs the small builder just as the small builder needs him."

"Because dealers and builders were not properly coordinated, a whole new industry, prefabrication, sprang up on top of the old. If lumber dealers will exploit precutting and preassembly—which are at the heart of the Lu-Re-Co system—they will take the first positive step in years to regain their former position."

'Preassembled panels counterbalance prefab economy'



Elias W. Nuttle, NRLDA merchandising committee:

"Combined with roof trusses this prefab panel system is the nearest and easiest way for a lumber dealer to become a prefabricator. I know of many lumber companies already making door and window panels in pre-assembled units and panels for solid wall sections. The 4' module is the most practical dimension because it fits common material dimensions, and you know in advance just where you come out; if you have all sizes of panel sections and try to vary design, appearance or size, you don't know where you'll come out."

'An effective answer to big builders and prefabbers'



William K. Barr, executive committee, Lumber Dealers Research Council:

"The success of the prefabricator is largely due to his getting in an area first with the mostest in financing. He has a rough go of it when he is faced with the financing and technical resources of a Levitt or Franklin Burns. The small builder getting financing out of a nail keg can't compete with prefabbers, but if he can get financing based on a uniform product built with the latest technical knowledge, he can compete effectively."

"We are already working on a tract outside Denver using panels based on Small Homes Council research, and we know it will cut down on our labor cost even though it uses a few more studs per house."

'A coordinating link to bring about building economy'

Watson Malone III, vice president, NRLDA:

"This system is a coordinating link between the manufacturer, the lumber dealer and the builder to give the consumer more house for less money. And that's a doggone good deal."

"I know builders working with lumber dealers in my general area who are doing similar things. They conservatively estimate over-all savings of materials and labor from 10 to 15% under conventional construction."

"I'm not so sure that this system will take more lumber than conventional building in the long run. On the job a 2" x 4", 16' long, often gets cut up into many different sizes and eventually some of it becomes a waste. That wouldn't happen when panels are made in a jig because it forces more preplanning, more economical use of lumber."



'Lumber dealers will need better design'

L. Morgan Yost, FAIA, Committee on the Home Building Industry of AIA:

"Standardization of door and window panels is certainly important, though I'm not at all sure the unit should be 4'. If the industry could get door and window units prefabbed in panels, it could economically preassemble solid wall sections of any length to go between them. The 4' panel is as old as prefabbing, but I believe a 16" module is much more adaptable in house construction."

"If this Lu-Re-Co campaign is just another gimmick to sell more lumber through stock plans tied to a panel system, then it will leave the lumber dealers no better off than they were before. What they and their small builder friends need most of all is the kind of better design the big prefabbers are beginning to get from good architects."

"Good architects can design good houses with the Lu-Re-Co panels, but without that good design the panels won't save the day."



'Panels tie in with the do-it-yourself idea'

Henry J. Munnerlyn, president, NRLDA:

"The Lu-Re-Co panel system leads directly to packaged selling and the do-it-yourself movement, both of which lumber dealers are promoting. It may be the biggest thing yet in do-it-yourself: a home owner who wants to add a room to his house can buy the parts instead of pieces."

"This should help the dealer tremendously because he can make panels directly from smaller components and lumber he already has in stock. Savings to the customer, whether he be building contractor or consumer, will result because lots of short lengths that become scrap on a job site can be used in building panels in a jig."



'Should simplify FHA procedure'

Clarence A. Thompson, chairman, Lumber Dealers Research Council:

"I see the Lu-Re-Co program as an example of what cooperation within one phase of the industry can achieve. The panel system will probably be used in many ways and that is as it should be for flexibility is our keynote."

"As a lumberman I am enthusiastic, because it enables us to work with our builders to achieve a better end product. And it should simplify our FHA procedure."



ROOF COVERINGS

of application, guaranty, available, and the cost of various finishes. The costs per square foot are based on normal quantity of the type of roofing used in the Eastern Area. Prices may vary 30% due to location, size of job, and location.

The following pages show the various types of roof finishes available for use in small construction. For comparative purposes, many factors important in choosing a roof finish are listed. These factors include description of the material, the minimum and maximum slopes, method

BUILT-UP ROOFING

REPAIRED IN CONSULTATION WITH TURNER CONSTRUCTION COMPANY

ROOF COVERINGS

house home

DESIGN STANDARDS AND DATA

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ROOFING SHINGLES & TILES

TYPE	DESCRIPTION	SLOPE MAX. MIN.	WGT.	SIZE	BUTT. THICK.	COST sq. ft.	GUAR. ANTY.	UNDER- LAY	FASTENER	APPLICATION	LAP OR EXPOSURE	COLOR & TEXTURE	U.L.R. CLASS
ASBESTOS	American Junotilla	4" to 5" in 12"	285 to 360/sq. 600/sq.	16 to 24" x 18" L.	3/32" to 1/4"	.43	10 yrs.	Satur- ated felt or water- proof paper	Copper or Aluminum Nails	Laid on matched roofers' covered with waterproof paper or a layer's felt.	2" Head lap 5" to 7" Exposure	Smooth Various Colors	Class B
	American Duplex 12 x 18 in. 1/2"	do	285 to 300/sq.	16 to 24" x 16" L.	5/32"	.55	15 yrs.	do	do	do	do	do	do
	Dutch or Scotch	5" in 12"	260/sq.	12 to 16" L.	do	.55	do	do	do	do	do	do	do
	French or Hexagonal	do	245 to 265/sq.	16" x 16"	do	.65	do	do	do	do	do	do	do
	American Strip 15 in. 1/2"	do	300/sq.	16" to 32" L. varies	do	.55	do	do	do	do	do	do	do
ASPHALT	3-Tab Hexagonal Strip 13 in. 1/2"	do	245 to 265/sq.	16" x 16"	do	.55	do	do	do	do	do	do	do
	Asbestos-Plastic Coating-3 Tabs	4" in 12"	325/sq.	36" W.	3/8"	.40	20 yrs.	Asphalt Felt or Roll Roofing	Copper, Zinc Galv. Iron or Aluminum Nails	Laid on matched roofers' covered with Asphalt Felt or Roll Roofing	2" Head lap 5" Exposure	do	Class A
	Individual Dutch lap American	4" in 12"	160/sq.	12" x 16" W.	1/2"	.36	do	do	do	do	do	do	Class C
	Strip Shingles 3-Tabs	do	320/sq.	16" x 12" W.	do	.50	do	do	do	do	do	do	do
	Hexagonal Strip 2 or 3 Tabs	do	210 to 275/sq.	16" x 12" W.	do	.35	do	do	do	do	do	do	do
ALUMINUM	Inter- locking Standard Double Coverage	do	170/sq.	19 x 19 3/8"	do	.35	do	do	do	do	do	do	do
	Lockdown	do	135 to 165/sq.	16" x 16"	do	.25	None	do	Copper staple	Over solid deck sheathing	4" Head lap 2" to 3" Exposure	do	do
	4-way Interlocking	4" to 6" in 12"	400/sq.	8" x 7 1/2"	3/8"	.60	None	do	Aluminum nails	Applied to light sheathing or nailing compound	4" Head lap 8" in 12" Exposure	Smooth Many colors	do
	Slating Standard Textured	20" in 12"	150/sq.	10" x 20"	3/16"	.85	20 yrs.	1/2" Felt	Copper or Galv. Iron Nails	Laid on felt over matched or solid sheathing. Shingles spaced not less than 1/4" apart nor more than 3/8"	4" Head lap 8" in 12" Exposure	do	do
	Red Cedar	3" to 6" in 12"	200/sq.	16" x 16"	3/4"	1.07	15 yrs.	Roll Roof	Galvanized Nails	Laid on felt over matched or solid sheathing. Shingles spaced not less than 1/4" apart nor more than 3/8"	4" Head lap 8" in 12" Exposure	do	do
WOOD	Green Cypress White Cedar Southern Pine	do	200 to 250/sq.	16" x 16"	1/2"	.72	do	do	do	Laid over Asphalt Felt	2" Head lap 5" to 10" Exposure	Smooth Many colors	do
	Handsplit & pre- stained handsplit	do	150 to 170/sq.	16" x 16"	1/2"	.88	20 yrs.	do	do	do	do	do	do
	Single - Flat	do	150 to 170/sq.	16" x 16"	1/2"	.88	20 yrs.	do	do	do	do	do	do
	Interlocking Flat	do	150 to 170/sq.	16" x 16"	1/2"	.88	20 yrs.	do	do	do	do	do	do
	Bermuda Flat Shingle Spanish	2" in 12"	100/sq.	16" x 8"	2"	.32	None	do	Cement Nails	Underlay. Set tiles in butter bed	13" x 8" Exposure	Many colors Many textures	do
CEMENT TILE													
VINYL	Any pitch	any pitch	13/sq.	12 to 15 x 18	1/2"	.45	10 to 15 yrs.	None	None	Spray on dry & clean surface	do	Many colors Many textures	do
NEOPRENE	Any pitch	any pitch	13/sq.	12 to 15 x 18	1/2"	.45	10 to 15 yrs.	None	None	Spray on dry & clean surface	do	Many colors Many textures	do

PLASTIC ROOFING

TYPE	DESCRIPTION	SLOPE MAX. MIN.	WGT.	SIZE	BUTT. THICK.	COST sq. ft.	GUAR. ANTY.	UNDER- LAY	FASTENER	APPLICATION	LAP OR EXPOSURE	COLOR & TEXTURE	U.L.R. CLASS
VINYL	Any pitch	any pitch	13/sq.	12 to 15 x 18	1/2"	.45	10 to 15 yrs.	None	None	Spray on dry & clean surface	do	Many colors Many textures	do
NEOPRENE	Any pitch	any pitch	13/sq.	12 to 15 x 18	1/2"	.45	10 to 15 yrs.	None	None	Spray on dry & clean surface	do	Many colors Many textures	do

PREPARED IN CONSULTATION WITH TURNER CONSTRUCTION COMPANY.

STANDING SEAM, FLAT SEAM & BATTEN SEAM ROOFING

TYPE	DESCRIPTION	SLOPE MAX. MIN.	WGT.	SIZE	THICK	COST sq. ft.	GUAR. ANTY.	UNDER LAY	FASTENER	APPLICATION	LAP OR EXPOSURE	COLOR & TEXTURE	U.L.R.
ALUMINUM	Batten Seam	15" in 12"	60 to 92#/sq.	31 1/2" x 12 1/2" sheet	.032"	\$3.36	15 yrs	30 lb. felt	Aluminum nails or screws & cleats	Sheet placed in batten & cap is screwed over	11" to 19" Exposure	Smooth Mill Finish	-
COPPER	Standing Seam Pan or Roll Method	2 1/2" in 1 1/2"	80 or 128#/sq.	16" x 72" or 20" x 96"	.02"	1.36	15	15 lb. Felt or Resin	Copper or Bronze Nails & cleats	Sheets locked together to form standing seams	11" to 19" Exposure	Smooth Weathered Green	-
TIN (TERNE PLATE)	Batten Seam	2" in 1 1/2"	16" to 62#/sq.	24" x 96" or 28" wide x 12' long	.02"	1.97	1 yr	30 lb. paper	Terne cleats & roofing nails	Use Double Lock unsoldered seam	11" to 25" Exposure	May be painted any color	-
80% LEAD 20% TIN	Standing Seam	do 2" in 12"	76#/sq.	96" x 120"	.0195"	1.45	do	do	do	Single lock seam soldered	24" Exp.	Smooth Metallic	-
GALVAN. IZED IRON & STEEL	Standing Seam	2" in 12"	88 to 130#/sq.	30 1/2" wide 50 1/2" long	.028"	.18	15 yrs	None	Galvanized nails & cleats	Use Double lock seam	do	do	-
	Peasbed Standing Seam	5" in 12"	79 to 183#/sq.	24 1/2" wide 5' to 12 1/2' long	.028"	.84	do	do	do	do	do	do	-

CORRUGATED & CRIMPED ROOFING

CORRU. GATED ASBESTOS CEMENT	1-2 Corrugation	3" or 4" in 12"	375 to 410#/sq.	6" to 12" long 42" wide	14" overall thick	.80	10 yrs	None	Lead headed Bolt or screw	Screw to Wood Bolt to Steel	1 corrugat. side lap 6" end lap	Smooth Gray	-
ALUMINUM	Curved Corrugations 1 1/2" & 2 1/2"	3" in 12"	56#/sq.	5' to 12 1/2' long 26" wide	.024" to .019" T.	1.15 to 2.75	to	do	do	Nail to wood screw or rivet weld to steel	1 1/2, 2 1/2 corr. side. 6" or 8" end.	Smooth Smooth or embossed	-
GLASS	Curved Corrugated	3" in 12"	30	36" wide	.032" T.	.30	15 yrs	do	Aluminum nails screws, Nelson stud fastener, or clips	min. radius of curvature 30"	36"	do	-
PLASTIC	5-V Crimp	3" in 12"	30#/sq.	5' to 12 1/2' long 26" wide	.028"	.40	do	do	do	Over solid or near solid sheathing	2 crimps side. 6" or 8" end.	Smooth or embossed	-
	2 1/2 Corrugations 1 1/2, 2 1/2, 2 1/2	3" or 4" in 12"	630#/sq.	0 to 12 1/2' long 42" wide	3/8"	2.75	depends on condition	do	Sheet Metal Cup & Bolts	Elliptical to Purlins	3" end lap	White & Amber	-
	5-V crimp	3" or 4" in 12"	90 to 70#/sq.	2' to 12 1/2' long 26" to 42" wide	.065" to .097" wide	1.47	None	do	Nails, Bolts or Clips	Fastened to structural members	1 or 1 1/2 corrugation side lap	Smooth or Rough Many colors	-

FIBERBOARD ROOFING

FIBER- BOARD TILE	Cane fiberboard impregnated with bituminous	1" in 12"	203#/sq.	24 1/2" x 49" or 28" x 21 1/2"	1/2" or 3/16"	1.40	None	3-Ply Built-up Roof	Asphalt Plastic Compound	Apply Tile on 1 1/2" Felt over built-up roof	Rabbetted edges	Black Green Red	Class A
FIBER- BOARD CORE WITH COVERING (ALL BOARD FACTORY FABRI- CATED	90% asphalt applied over fiberboard at factory Copper sleeve over fiberboard core. Aluminum Sleeve over fiberboard Aluminum Foil Felt 3 mils over fiber- board core	2 1/2" to 3" in 12"	360#/sq.	15-3 1/2' wide 8'-0" long	1 1/2" T.	-	-	None	Aluminum Nails Copper nails Aluminum Nails	Sheets nailed & sealed with mastic	1 1/2" Exposure	Smooth Weathered Green Smooth: Aluminum Rough Various colors	None to do do do



SEE THE DIFFERENCE: These surprising before-and-after pictures show the crisp new look that can be given to masonry walls in a matter of a few hours . . . for a matter of a few dollars. Flush vertical joints and tooled horizontal joints give the effect shown.

Here's a *NEW EXPRESSION* for masonry faces

Today's architects are transforming concrete block and other masonry walls to surfaces as handsome as they are durable. With the application of a cement paint even the roughest-textured blocks take on a smooth, clean surface that will resist moisture, dirt and dust in any climate.

The paint forms a permanent bond with the wall—becomes an integral part of it. Economical cement paint is easy to apply to concrete or masonry. On a dampened surface the paint is simply brushed on—first over joints—then over the entire wall.

Color selection is complete. The true white of Atlas White gives full value to the delicate tones of pigment colors.

Cement paint and stucco manufacturers recog-

nize the uniform and true whiteness of Atlas White. That's why they specify it in their superior products. Whether you use a convenient easy-to-use factory-prepared mix or job-mix your own paint, be sure it's made with Atlas White Cement.

For further information see SWEET'S Catalog, sections 4E, 7a and 13C/5, or write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.



CONCRETE BLOCK partially covered with cement paint. Note how voids are filled and the rough texture smoothed to form a bright, clean surface.

Cement paint used on job above was made by Penn Crete Products Co., Philadelphia, Pa.



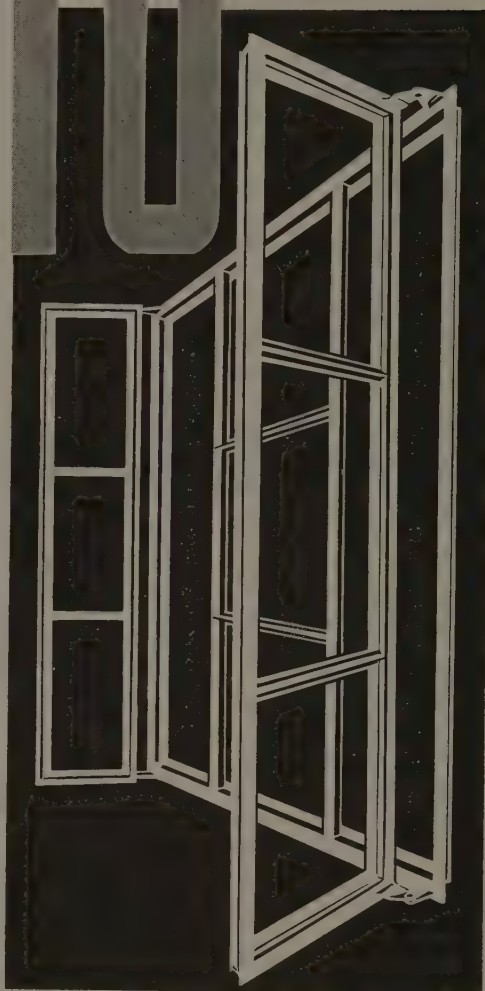
FOR BEAUTY AND UTILITY
ATLAS WHITE CEMENT
FOR TERRAZZO, PAINT, SLABS, STUCCO

UNITED STATES STEEL HOUR—Televised alternate weeks—See your newspaper for time and station.

VENTO

the BONDERIZED STEEL WINDOWS OF *EXTRA VALUE*

The extra value in Vento Bonderized Residence Casement Windows includes: all casements drilled and tapped to receive storm sash and screens, operator arm guide channels attached with screws for easy removal and replacement, if necessary; ventilator frames constructed from the same heavy sections as the outside frame. This provides greater rigidity and stronger ventilators.



NEW IMPROVED VENTO BONDERIZED "CHAMPION" BASEMENT WINDOWS give extra value because of their 14-gauge electrically welded frame, fins welded to jamb for quick installation and double contact with leak-proof watershed sill. A plus value incorporates a redesigned latch which assures positive operation under all conditions.



VENTO "THRIFTY" BONDERIZED BASEMENT WINDOWS give extra value because they are a real economy window especially designed for lower cost housing. Two position ventilation and easy sash removal. Fin flanges at jambs for quick installation. Three sizes, putty type only.



VENTO FORMED STEEL LINTELS give extra value because they permit the use of standard 8" blocks over door and window openings. Of 10-gauge steel, with stiffening crimp in center. Also formed steel lintels for brick constructions

ALSO Vento "Champion" Barred Basement Windows; Vento "Champion" Utility and Barn Windows; Vento "Thrifty" Utility and Special Type Windows.

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VENTO

STEEL PRODUCTS CO., INC.
236 Colorado Ave., Buffalo 15, N. Y.

REVIEWS

HOME BUYER'S CHECK LIST, 1954 edition. Prepared by Housing Research Foundation, Southwest Research Institute, 8500 Culebra Rd., San Antonio, Tex. 22 pp. 5½" x 8½". Single copies 25¢; 10 to 100 copies, 15¢ each; 100 to 1,000, 10¢ each; over 1,000, price by special arrangement.

Builders could profitably study the inside pages of this booklet, for they are apt to get many a look at the cover in 1954—in the hands of hard-to-satisfy shoppers. Based on SWRI's criteria for Certificate of Approval awards, it is a layman's guide to evaluating the appearance, performance and livability of houses. Builders who are going to have their houses rated by this check list will want to know what the criteria are. SWRI is making the book available to the public by means of mass distribution through bulk purchases by homebuilders, manufacturers and stores.

The foundation acknowledges that FHA inspections and local building codes usually provide adequate technical quality, but advises:

"If the builder has made a conscientious effort to provide superior livability (rather than salability), then it is not likely that he has skimped on materials and construction, and it seems reasonable to trust his judgment on the things you cannot see."

The booklet asks the prospective buyer to rate the house on four general subjects: 1) neighborhood, 2) exterior, 3) interior, and 4) builder, on a basis of 167 questions. The total score is a matter of academic interest only, the important thing is finding the best house possible in the price range demanded. No attempt is made to determine arbitrarily what is a "good" house, or what is "bad."

How do you rate?

Here are typical questions from one section on kitchens:

22. Is the kitchen attractive?
23. Is it partially open to the dining area? (For sociability as well as for convenience in serving.)
24. If so, can it be closed off completely if desired (for formal dinners)?
25. What is the total length of the base cabinet fronts? (Include cabinets under sink and storage portion of range. Over 11' 0"—good; under 8' 6"—poor.)
26. What is the total length of the wall cabinet fronts, not counting those over the range or refrigerator? (Over 8' 6"—good; under 5' 0"—poor.)
27. What is the total length of the counter at the front edge, not counting the sink? (Over 8' 6"—good; under 6' 6"—poor.)
28. Is there a counter at least 1' 6" long on each side of the sink and on at least one side of the range and on the opening side of the refrigerator?
29. Total length of the "work triangle" between center fronts of sink, range and refrigerator. (Between 12' and 20'—good under 12' or over 20'—poor.)

continued on p. 174



New Home Prospects

... came to inspect this attractive model home



erected by noted builder, C. Di Felice



(average price \$22,500).

A feature attraction was year 'round air



conditioning by Bryant's famous "Command-Aire" Twins.



Result: **SOLD** 50 sales in 90 days... a profitable

transaction for which Mr. Di Felice gives due credit to the

strong sales appeal inherent in the "Command-Aire" equipped

home. Specifically, Mr. Di Felice... and home buyers... liked

these unique features of the Bryant "Command-Aire" system...

... **A new low price**—makes "Command-Aire" conditioning a practical feature in moderately priced homes.

... **Unusually compact design**—permits the "Twins" to be installed in a closet or alcove... saves up to 100 dollars in space costs per home.

... **Independent heating and cooling units**—assure proper delivery of air for both heating and cooling... provide better dehumidification control... eliminate overload on furnace blower.

... **Cooling initially—or later**—The "Command-Aire" furnace member can be installed first, and the cooling "Twin" offered later... whichever is most convenient for the buyer.

... A unique Bryant warranty eliminates service headaches.

bryant®



*Mr. Di Felice's homes, offered in 3 and 5-bedroom styles, are located at Bob White Farm, a 200-acre tract of scenic land in Montgomery County near King of Prussia, Pa.



HEATING • AIR CONDITIONING • WATER HEATING

For full information write BRYANT HEATER DIVISION, 17825 St. Clair Ave., Cleveland 10, Ohio

"SPACEMASTER

**cuts my
'per opening' costs
...and my
sales costs, too."**

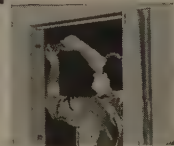
... Builder Bob Lightner

Here's how easy it is
to install "Spacemaster"!



Cut drilled track to opening width. Mark and drill holes in header. Slide track onto door and lift into opening.

▶ Screw 4 spring-steel clips to jamb. Snap jamb post over clips. That's all.



◀ Average tested time for entire installation operation—11 minutes.

SPACEMASTER
folding doors
by
modernfold
DOORS

Copyrighted New Castle Products, Inc., 1954



Lightner Brothers' 500-house development in Wichita, Kansas, uses from 5 to 8 "Spacemaster" folding doors per house—for several good reasons. Not only do "Spacemaster" doors save on construction costs, but they attract customers too! Says Mr. Lightner: "Prospects are quick to notice how 'Spacemaster' doors make the rooms larger. They make our whole selling job easier."

You get "Spacemaster" at the lowest price in the history of quality folding doors and save on preparation costs, installation time and labor, too. "Spacemaster" goes up with eight screws in ten minutes. Two heights: 6' 6" and 6' 8½". Three maximum extension widths: 2' 6", 3' 0" and 4' 0". Textured vinyl fabric covering is in the popular "decorator gray."

Find out how you can cut costs with "Spacemaster." See your building supply dealer or "Modernfold" distributor. Clip coupon for more information.

NEW CASTLE PRODUCTS, INC.

New Castle, Indiana

In Canada: New Castle Products, Ltd.
Montreal 6

New Castle Products, Inc.
P. O. Box 971, New Castle, Indiana
Gentlemen: Give me full information on
"Spacemaster" doors.

Name.....

Company.....

Address.....

City.....County.....State.....

REVIEWS

Of the neighborhood:

1. Is it attractive?
5. Are there any short dead-end streets (eliminates through traffic)?
7. Are there any big trees (if so, the builder went to a lot of trouble to preserve them)?
10. Are the houses so nearly identical that the effect is unpleasant?
11. Are the houses so different that the result is a hodgepodge?

Of the exterior:

2. Is it simple (that is, are there few materials, breaks or projections in the walls and roof, applied decorations)?
4. Does it imitate some style of the past?
7. Can you go from the garage or carport to house under cover?
9. Is there a large picture window facing the street, neighbors or the west?

Of the builder:

1. Who is the architect? What other work has he done? What prizes or awards?
2. What other developments has the builder done? Have they been published? What prizes or awards?
3. Does the builder give a warranty, and if so, for how long? (If for one year or more, score full value; if no warranty, score zero.)
8. Does the builder correct any defects?

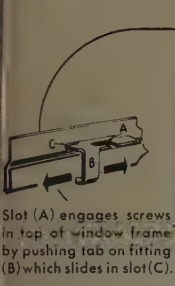
THE FUTURE OF ARCHITECTURE. By Frank Lloyd Wright. Horizon Press, 220 W. 42nd St., New York, N.Y. 326 pp. 8¼" x 10¼". Illus. \$7.50

At about the time that Frank Lloyd Wright's exhibit, *Sixty Years of Living Architecture*, opened in New York (H&H, Nov. '53), Wright published this collection of essays and lectures, until then largely out of print. To Wright disciples and many others the book is worth its price for the famous Hull House lecture (1903) alone, in which he called on twentieth-century architecture to lay down the jigsaw and pick up the welder's torch.

Exhibit and book together formed a deeply revealing documentary of this architect's lifelong endeavor to hew out a truly American way of building.

So far as house building is concerned, the 84-year-old architect can now lay claim to having reshaped the countenance of his country, for he has helped the American house strip off its attic, its basement, its dormer windows and shutters, and burst through its boxlike walls to sunlight, the view and the out-of-doors.

This is an old victory, well-consolidated. The Spanish villas and the colonial cottages have all but disappeared from the suburban development, and now there is scarcely a house built anywhere in the US which does not in some way—whether by view window, indirect lighting, radiant heating, living-kitchen, carport or open plan—show the imprint, however blurred, of this man's hand.

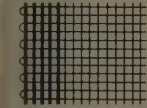


Slot (A) engages screws in top of window frame by pushing tab on fitting (B) which slides in slot (C).



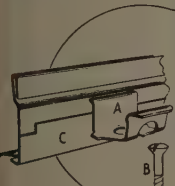
5 SCREWS

are used to install TENSION-tite screens. (A sixth screw is employed for extra wide screens). A screwdriver is the only tool used.



REINFORCED SELVAGE

Fits tightly against blind stops.



CATCH (A) ENGAGES SCREWS (B) ON SILL

Save
ON ORIGINAL COST!

Save
ON INSTALLATION!

TENSION-tite*

ALL ALUMINUM SCREENS
FOR D.H.WOOD WINDOWS

Guide Bar C is temporarily detached (below) to serve as a template, correctly positioning the screws at top and bottom for a tight fit. Returned to the screen (above) it keeps the bottom of the screen closed tightly against sill.

FASTEST TO INSTALL

TENSION-tite aluminum screens have a self-contained template or GUIDE BAR which locates correct position for the five screws. (Six screws on screens wider than 3'-0"). Complete installation takes 3 to 5 minutes.

NO PAINTING—NO RUST

The special corrosion-resistant aluminum and Alclad aluminum wire cloth never need painting, never rust, never stain. There are no steel rivets, springs, or other parts to cause electrolysis.

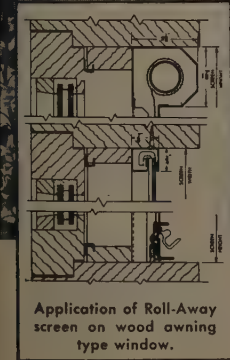
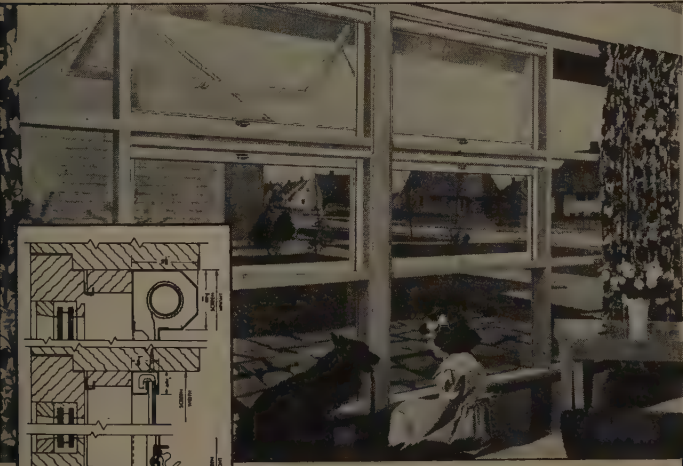
LAST MUCH LONGER

TENSION-tite has the simplest hardware of any screen. No gadget appeal for children. No levers, pins, rivets, or loose parts. Only two movable parts, and they are handled only when screen is being installed or taken down.

ARCHITECT'S SPECIFICATIONS

Abridged specifications are given in Sweet's Light Construction File, 1954, 5b/ru. For detailed specifications please write office nearest you.

*Trade mark of Rudiger-Lang Co.



Application of Roll-Away screen on wood awning type window.

Roll-Away

the best way to screen PANEL WINDOWS

Roll-Away screens on panel windows are self-storing, and roll out of sight when vents are closed, thus giving a clean, unbroken view. They are pulled down like window shades whenever the awning windows are opened.

This screen permits the use of friction hardware on the awning units, instead of the heavy and costly roto hardware required where fixed screens are used.

The Roll-Away screen—friction hardware combination is greatly favored by the home-owners, and offers advantages to the builder as well.

*Builders: Write for full size detail showing installation.
Dealer inquiries invited.*

RUDIGER LANG CO.

2701 EIGHTH ST., BERKELEY 10, CALIF. • SUITE 310, INTERNATIONAL TRADE MART, NEW ORLEANS, LA.
Distributed in Southern California by TENSION-tite Window Screen Co., 8473 Beverly Blvd., Los Angeles 48

Factories in
Toccoa, Ga.
and
Berkeley, Calif.

Cut Your Fireplace Construction Costs

It costs less to build with *Benefire*® than to lay up a Common Brick Fireplace!

This Fireplace Form Pays for its Full Price by cutting Construction Costs.

Yet it builds a perfect smoke-free fireplace every time!

SAVES LABOR-MATERIALS-SKILL

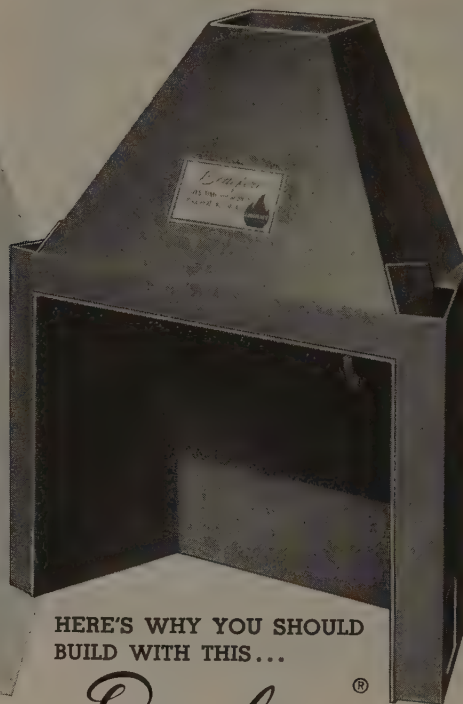
Build around a Benefire Form and **Save Labor** because all the time-consuming "brick-by-brick" details are an integral part of the Benefire.

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Save the Cost of Highly Specialized Skill. There's no intricate planning necessary. Just straight fast work not requiring specialized experience.

Just follow the simple instructions and your mason's work is **GUARANTEED** every time.

IT'S TRUE—no matter how simple or elaborate your fireplace, you can build it **better at less cost** with a Benefire Fireplace Form.



HERE'S WHY YOU SHOULD BUILD WITH THIS...

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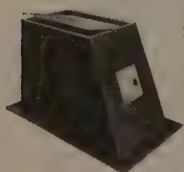
What you save:

1. Time and labor
2. Specialized skill unnecessary
3. No damper to buy
4. Brick and mortar

What you get:

1. No smoke, guaranteed
2. Tempers cold floor drafts
3. Extra heat for emergencies
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**UNIVERSAL
DAMPER**

The damper that gives you new freedom in fireplace design—builds any one of six basic fireplace styles including projecting corners, three-sided openings, etc. at moderate cost.

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Cast iron or Steel—Bennett offers you a complete range of sizes for the conventional fireplace. Bennett-engineered, Bennett-built for long life and economy of construction.

See your BENNETT representative or write Dept. B for catalog.



REVIEWS continued

Housing . . . USA. As Industry Leaders See It. Simmons-Boardman Corp., 30 Church St., New York 7, N.Y. 224 pp. 6" x 9". \$5

Homebuilding's bibliography is limited, and few would deny the need for a comprehensive account of the emergence of the industry and the merchant builder as prime supports of the US economy. Many of the 22 articles collected in *Housing . . . USA*, edited by 14 past presidents of NAHB, will furnish excellent source material for the student or layman interested in housing.

Publication is in answer to a constant stream of requests for factual information on homebuilding, by schools, colleges, libraries and social agencies. Conrad (Pat) Harness, director of public relations for NAHB, coordinated the entire project, assigning specific topics and chapters to his list of experts.

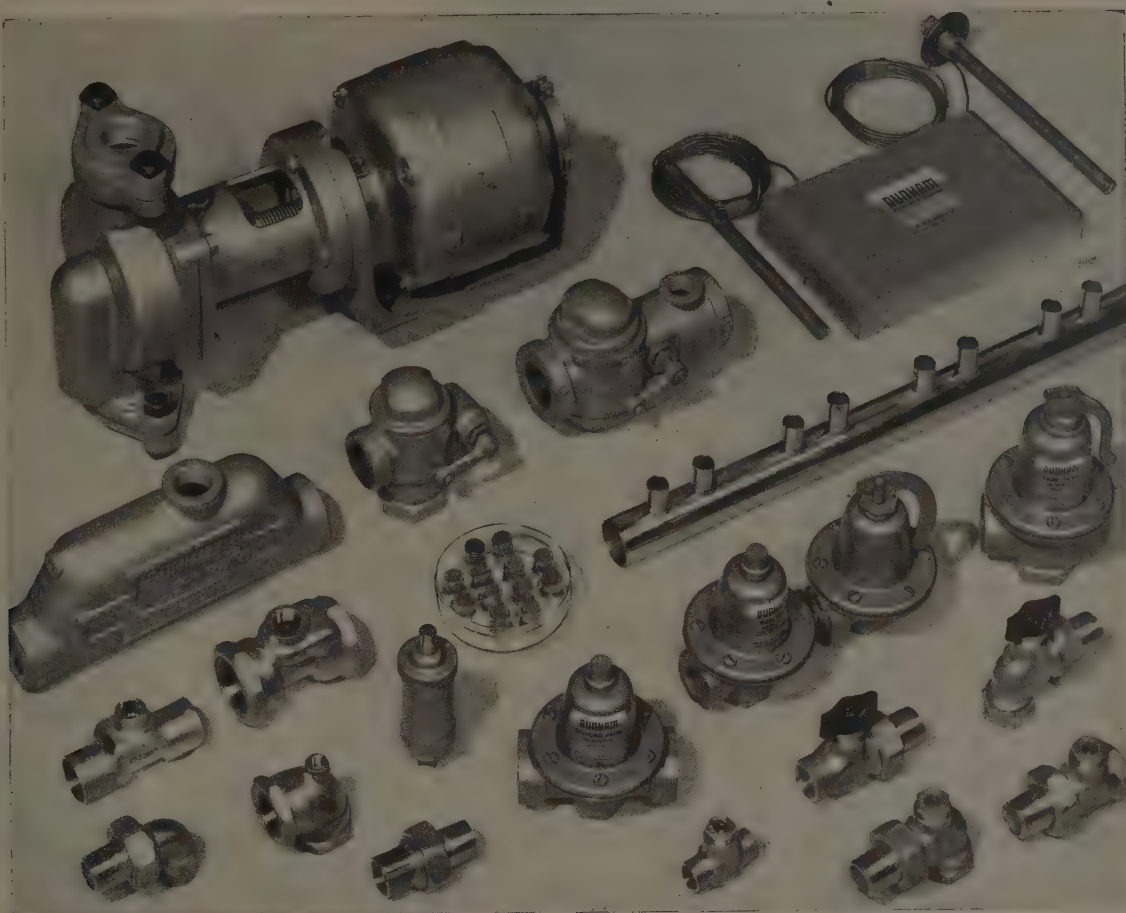
Some chapters are excellent. The growth of mortgage financing is especially well-developed, with full credit given the imaginative FHA program for its part in helping the industry attain its present million-units-per-year status. Few outside the building field realize the omnipotent role played by modern mortgaging in the expansion or contraction of building volume, and this book should make builder concern for financing more understandable to the general public.

Chapters on research and new products are clear-cut presentations that "houses aren't built the way they used to build them—thank goodness." The book calls the roll of improved methods and products made possible by builder-manufacturer-research organization cooperation, and points out that "inevitably, it is the private builder who translates research into results, often far in advance of what local or federal agencies may approve.

The book glosses over some subjects, mainly because it tries to cover so many. The chapter "They Build Cities" omits some of the most important of the postwar communities, and could have detailed more of the "insurmountable" obstacles that the merchant builders met and overcame while they were creating their communities. Several other subjects, such as "Cooperative Housing," and "Outdated Codes: Barrier to Progress," suffer from insufficient treatment. The fight for uniform and less-restrictive codes is too important to be passed over in just six pages.

Distribution will be largely in the hands of the nation's homebuilders, for NAHB is asking their membership to purchase three copies of *Housing . . . USA*, to keep one for their personal library, and to donate the other two to local schools or libraries. Revised editions are to be published every two years, to include new developments in the industry. If changes in homebuilding continue at the same rate as for the past two decades, this will mean that the editors' toughest task will be keeping the volume abreast of changes.

continued on p. 186

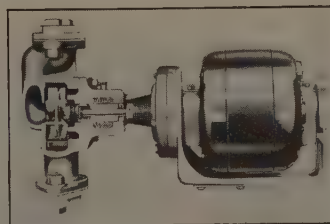


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You'll Sell, Figure and Install any job faster when you depend on Dunham. As you can see, this line is complete. One order covers everything—circulators, valves, fittings, specialties, controls and *all radiation*. Every item has features designed to simplify installation.

Dunham Circulators, for example, are easy to install with few tools. Selected brand-name motors with dynetrically balanced impeller assure quiet, vibration-free circulation.

Dunham's single-spring motor coupling simplifies servicing. Stainless steel carbon rotary seals easily replaced in the field. For all the facts, clip and mail the coupon.



New Dunham Circulator
Standard and High Head Capacities



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RADIATION • UNIT HEATERS • PUMPS • SPECIALTIES

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Novafold

BAMBOO DOORS and WINDOW DRAPES

add beauty—save money

In Novafold you have top-quality, imported bamboo, carefully processed and assembled by American methods. Mildew- and warp-proofed inner-core bamboo is assembled with Seine cord, self-lubricating Nylon slides and specially designed American hardware *for long life*. After more than 82,000 opening and closing cycles, independent laboratory tests revealed *no visible wear or weakening of materials*.

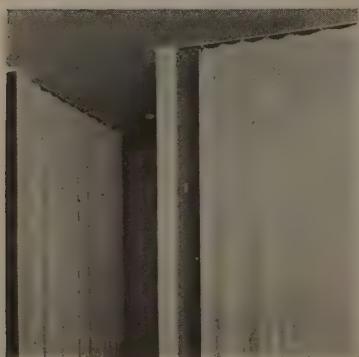
Novafold, on straight or curved track, saves space over swinging doors—compresses to 10% of its total expanse. Its ventilated closure permits air to circulate—prevents mildew with slab heating. Novafold Window Drapes screen sun's glare—pass cooling breezes.

Novafold is available in Natural and in nine standard colors; in sizes up to 16' wide,

12' high. Yet Novafold is far less expensive than any other folding door or room divider. Novafold comes complete in every detail—finished in the color you specify—"custom tailored" to your job. The enameled steel track, screwed to the top of the opening, completes the installation in 5 minutes' time. There is no floor guide. In new construction—no added cost for furring, trim, roughing or extra hardware.

May we send you illustrated literature and specifications? Please address your inquiry to Dept. 38.

Molded Plastic Clip—locked to bamboo—assures perfect accordion folding.



NOVA Co. SALES

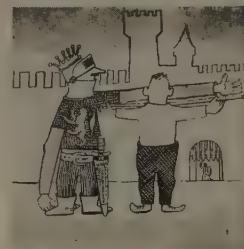
TRENTON 3, N. J.

A wholly-owned subsidiary of Homasote Company—manufacturers of the oldest and strongest insulating-building board; wood-textured and striated panels.

TECHNICAL PUBLICATIONS

STANDARDIZATION. Through History with Standards. American Standards Assn., 70 E. 45th St., New York 17, N.Y. 18 pp. 4 1/2" x 8"

A complex and portentous matter for industry, standardization is treated to a light-hearted biography in this little book. Similar



An attempt at standards was made in 1120 by Henry I of England, who prescribed that the ell, a cloth measurement, be gauged to his arm length.



Eli Whitney became the first mass producer when he filled a government contract for army muskets with 10,000 interchangeable parts.

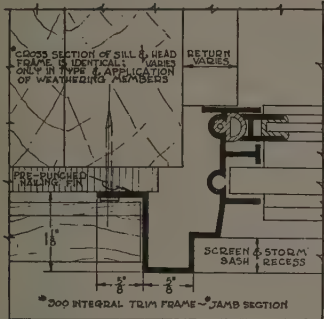


When Boston had to be rebuilt quickly after the 1689 fire, it became a civic crime to produce bricks in sizes other than 9" x 4" x 4"

in style to the wonderful "Five Sided Post Hole" published by the ASA last year, the cartoon-illustrated history points up, even in its *sub voce*, the inconvenience, useless confusion and downright tragedies that can be avoided by standardized materials. **PLUMBING FIXTURES.** Complete illustrated catalogue of Kohler's line of fixtures, including specifications. Catalogue K56. Buckram-bound. Kohler Co., Kohler, Wis., 146 pp. 8 1/2" x 11".

continued on p. 252

NEW SLIDER SOLVES ALL INSTALLATION PROBLEMS

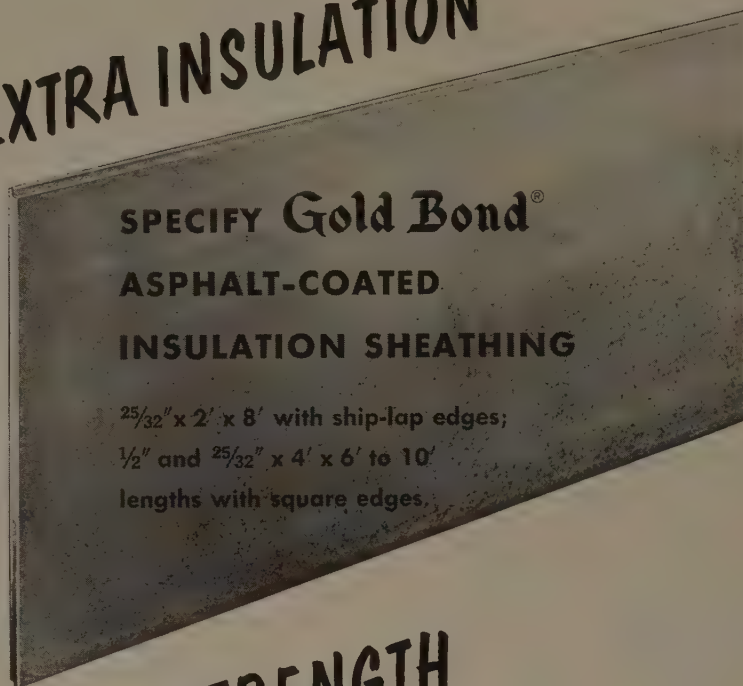


when you want **EXTRA INSULATION**



You can give your houses extra insulation value...and cut construction costs at the same time...with Gold Bond Asphalt-Coated Sheathing. The big panels have a lower density and an aluminum painted finish that combine to give them exceptional insulating efficiency. The aluminum finish helps reflect radiated heat.

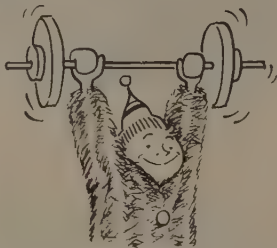
Fast application, fewer nails needed, and less waste save you money. Gold Bond Asphalt-Coated Sheathing needs no building paper except under stucco finish or where local building codes require it.



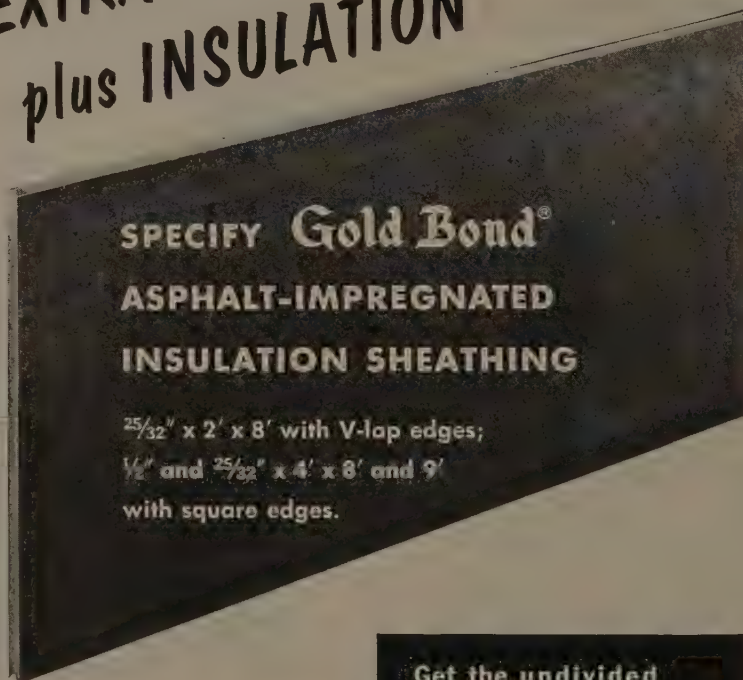
**SPECIFY Gold Bond®
ASPHALT-COATED
INSULATION SHEATHING**

$\frac{25}{32}$ " x 2' x 8' with ship-lap edges;
 $\frac{1}{2}$ " and $\frac{25}{32}$ " x 4' x 6' to 10'
lengths with square edges.

when you want **EXTRA STRENGTH
plus INSULATION**



No corner bracing is needed when $\frac{25}{32}$ " x 4' x 8' or larger Gold Bond Asphalt-Impregnated Panels are used. They cover a large area fast and need less nailing labor than conventional wood sheathing. One man can cover 1000 sq. ft. in 8 to 9 hours. The combination of Gold Bond Asphalt-Impregnated Insulation Sheathing and Shingle Backer makes a $1\frac{1}{2}$ " thick solid nailing base for wood shingle siding. Ask your Gold Bond representative for samples...or write for descriptive folder that shows you how to cut costs with Gold Bond Insulation Sheathing.



**SPECIFY Gold Bond®
ASPHALT-IMPREGNATED
INSULATION SHEATHING**

$\frac{25}{32}$ " x 2' x 8' with V-lap edges;
 $\frac{1}{2}$ " and $\frac{25}{32}$ " x 4' x 8' and 9'
with square edges.



Gypsum
Board
Products



Lath
& Plaster
Products



Insulation
Board
Products



Rock
Wool
Products



Paint
Products



Acoustical
Products



Asbestos
Cement
Products

Get the undivided
responsibility
of National Gypsum

use **Gold Bond®**
inside and out

NATIONAL GYPSUM COMPANY • BUFFALO 2, NEW YORK

Houses the first month!



THE
REASON ?

Alexander Caplan's model home in Chatham Township, New Jersey was a G-E "Young America" House—erected by the builder from basic plans supplied by the Home Bureau of General Electric. The G-E Kitchen-Laundry particularly delighted prospects.

WILL PAY you to investigate how helpful General Electric's Home Bureau can be in this new era of higher selling—just as it has been to Mr. Caplan and other successful builders throughout the country. Today people are getting mighty choosy and want more for their money.

Just completed are specifications for 4 new "Young America" Model Homes which contain features prospects want most in their new homes... features *they* afford.

Outstanding among the "want-most" features is the attractive General Electric Kitchen-Laundry.

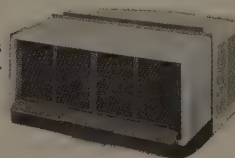
The value of these dependable appliances can usually

be included right in the regular mortgage, *and the monthly cost to the home owner is usually no more than that for a typical telephone bill.*

Builders in scores of cities are reporting phenomenal sales results of General Electric "Young America" Houses. Why don't you get all the facts through your General Electric distributor today?

Home Bureau, General Electric Company, Appliance Park, Louisville, Kentucky.

New G-E Room Air Conditioners
at low per-unit cost! Models are easily installed. No plumbing required.



You can put your confidence in—

GENERAL  ELECTRIC

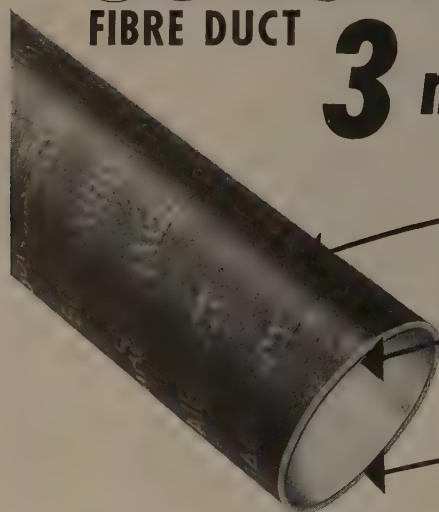
Now...Improved

SONOAIRDUCT®

FIBRE DUCT

PAT. APP. FOR

3 new features!



● Wrapped in black asphalt duplex kraft

● Lined with aluminum foil

● Ends dipped in wax

at NO increase in price!

SONOAIRDUCT—the economical fibre duct, which has in two short years revolutionized installation of loop, radial and lateral slab warm air heating systems—HAS BEEN IMPROVED...

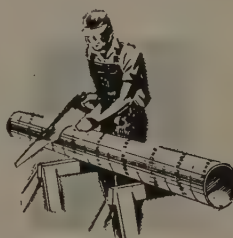
The new SONOAIRDUCT contains all the cost-saving advantages that has made it so popular with heating contractors and builders every where. The basic new improvements are:

SONOAIRDUCT is now aluminum foil lined for lower coefficient of air friction!

SONOAIRDUCT is now wrapped in a black, weather-resistant asphalt duplex kraft, trade-marked in the usual orange lettering.

SONOAIRDUCT is now end dipped in wax to make it more impervious to moisture!

SONOAIRDUCT will continue to be available in 27 sizes—2" to 36" I.D., up to 50 ft. long in specified lengths, or it can be sawed to desired lengths on the job. Fits all standard metal bends, elbows, registers, T's, etc. Permitted by F.H.A.



Can be sawed to exact lengths on the job. Easy to handle, level and fit. Saves time, labor and money.

All this—at NO increase in price!

Write today for complete information and prices

SONOCO PRODUCTS COMPANY

Construction Products Division

LOS ANGELES, CAL.
1920 SOUTH WESTERN AVE.
GARWOOD, N. J.

HARTSVILLE, S. C. — MAIN PLANT

BRANTFORD, ONT.

MONTICLAIM, N. J.
14 SOUTH 20TH STREET
AKRON, IND.



REG. U.S. PAT. OFF.

HOUSING MARKET *continued*

Long-term mortgages were almost unheard of, and most mortgages were subject to call at the end of a short period. To get a mortgage, in brief, a man had to have almost enough money not to need one. This was one reason, if not the only reason, that the housing market of the twenties collapsed.

What happened next, as everybody knows, was that the government got into house financing... [and] the government guarantee of mortgages, which has cost the taxpayer nothing so far, has done more than anything else to make possible a million or more new houses a year. If people had to pay 20 to 30% down, as they do on some uninsured mortgages, millions never would have bought houses. And because government-guaranteed mortgages have proved ideal investments for banks, insurance companies and similar institutions, mortgage money flows freely across state lines.

FHA's practice of making advance commitments has enabled builders to finance large-scale developments and work out the techniques of quantity production. FHA and VA dominate large-scale residential construction; they underwrite the financing of nearly three-quarters of the new construction in the \$6,000 to \$12,000 range, and 80% of all retail housing.

The new program. The government's role as insurer of mortgages, indeed, is so vital that no one in the industry, builder or banker, Republican or Democrat, would hear of its relinquishing that role. Some have agitated for liquidating Fanny May. But hardly anybody connected with building wants to do anything with FHA except to liberalize it. And that, in essence, is what the President's Advisory Committee on Government Housing Policies has just recommended.

Scrapage and rehabilitation. There may be one flaw in the rosy homebuilding picture. Vacancies in multifamily units in the cities are rising fast, but are still low among single-family units. What will happen if builders turn out such irresistible houses at such irresistible prices that people rush out and buy new houses as they buy new cars? That is, what will happen to the houses that nobody wants?

The answer is not wholly clear, for the housebuilding industry has never enjoyed a true replacement market of any consequence. Over the long run, however, the question should provide its own good answer. With housebuilders still underselling their market, a high vacancy rate should result not in a distressed market for expensive housing, as it did in the late twenties, but in demolition of worn-out, dilapidated, submarginal housing. Dwellers in a substandard house, when confronted with the opportunity of living in a modern prefabricated house and acquiring an equity in it to boot for about \$50 a month, are not going to stick to their old houses.

What will happen to the obsolete vacancies then is exactly what should happen.

Quicker Sale!



Reynolds Aluminum Reflective Insulation

High efficiency at less cost than most bulk insulations. Perfect vapor barrier. Embossed foil on two sides of tough kraft paper (Type B) or one side (Type C). In rolls of 250 sq. ft., 25", 33" and 36" wide.

New! Reynolds Aluminum SLIDING Traverse Window

A new and positive home-selling plus that again cuts cost. Easiest to install...no sash balances, weights, hinges...not even putty! Beautiful, a delight to operate...vents that slide open easily, close tight, lift out for cleaning. Hurricane tested...highest rating against air and water infiltration. Wide range of sizes and types, including center picture window. Write for catalog showing the full Reynolds line, including Casement, Awning, Double-Hung, Basement and Utility Windows.



and Downspouts

Write for literature. **Reynolds Metals Company,**
Building Products Division, 2019 South Ninth
Street, Louisville 1, Kentucky.

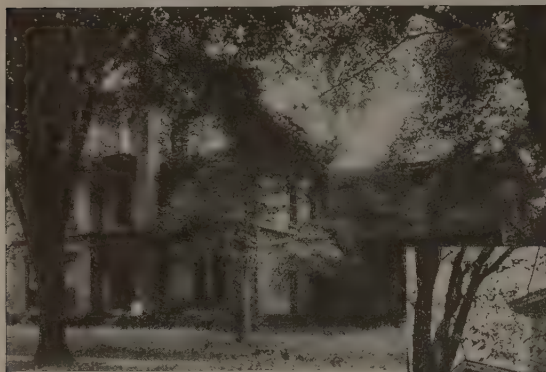
SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC-TV Network.

REYNOLDS ALUMINUM

BUILDING PRODUCTS



PROFITABLE APARTMENTS



*from Old
Tax-eaters*

RESCUED FROM OBLIVION BY SMART REMODELING

Overrun by weeds and seemingly destined for wrecking to save taxes, this 110-year old Toledo, Ohio mansion was remodeled to income status by the Blair Realty & Investment Co.

Addition of graceful lacy iron grillwork, repainting in fresh green and white, and landscaping combined to restore charm to the exterior.



DWYER KITCHENS

COMPLETE KITCHEN CONVENIENCE IN COMPACT SPACE



The interior was remodeled to make apartments with kitchen-dining areas like this . . . apartments quickly rented. Each has a Dwyer Kitchen . . . concealed by louvered doors when not in use.



4 SIZES . . . 39 to 69 inches wide
Genuine vitreous porcelain on all
exposed surfaces . . . easy to clean

Gas or electric ranges (AGA and Underwriters approved), refrigerator with freezer compartment and push-button door, one-piece sink and work top, storage cupboards . . . streamlined into compact units 39 to 69 inches wide.

One-piece range top, sink and counter area has no cracks or crevice to harbor dirt.

Dwyer Kitchens are made complete in our own plant . . . by an organization specializing in compact kitchens for over 26 years. Thousands of installations . . . nation-wide . . . have proven their durability in the hard usage of rental properties.

DWYER PRODUCTS CORPORATION
Dept. D34, Michigan City, Indiana

SEND FOR FREE BULLETINS ON DWYER KITCHENS

Name _____

Address _____

Town _____

State _____

DWYER PRODUCTS CORPORATION
Dept. D34, Michigan City, Ind.

NEW PRODUCTS



ROOF DECKING with a built-in vapor barrier does three jobs in one operation

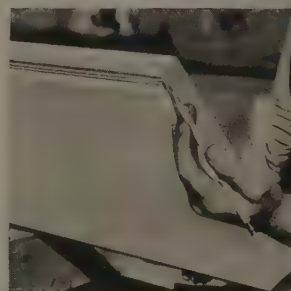
A new roof decking that incorporates a continuous vapor barrier promises to make the open-beam ceiling and built-up roof practicable anywhere in the US. Any building material that does two jobs with a single application cost offers possibilities for savings; Insulite's fiber decking goes further—it is decking, roof insulation and finished ceiling, all in one.



Prepainted underside contrasts with beams

Savings indicated are important. Manufacturer's cost comparisons for beamed ceilings show that 2" T&G decking with 1" insulation, painted on the underside, would cost \$684.94 per M sq. ft., while the new fiber decking would cost only \$371.24 for the same area, a saving of \$313.70. (Neither price includes the cost of built-up roofing.) Only ten man-hours were needed to lay the decking, while it took 30 man-hours to nail and paint the wood T&G decking.

Rubber gasket seals T&G joints



continued on p. 210

starts selling your homes

And when you show Mr. Prospect how TRANE Baseboard

*Convectors heat rooms evenly . . . stop back-chilling drafts . . .
give completely automatic heat . . . save fuel . . .*

last as long as the house . . .

he'll be far toward signing on the dotted line.

These are the features that do the selling

More heating comfort! Under windows . . . along outer walls, TRANE Baseboard Convectors *heat where cold begins* . . . surround you with a protective mantle of gentle warmth. Heat is even from floor to ceiling, wall to wall . . . no more back-chilling drafts off cold windows and walls . . . no more cold blasts when system starts up. There's no long, cold wait for heat to come on . . . no overheating. Efficient aluminum-copper heating element responds instantly for superior comfort . . . maximum fuel savings.

Modern beauty that improves any decorating scheme can be seen by prospects the minute they set foot inside the door . . . in the clean-cut, streamlined design of TRANE Baseboard Convectors . . . the hidden heat that allows furniture to be placed anywhere . . . no grilles or other interference. TRANE Baseboard Con-

vectors project only $2\frac{3}{4}$ " from walls . . . when recessed, only $1\frac{1}{2}$ ". Paint them to match walls or woodwork.

Golden silence! The relaxing quiet of your houses will never be jarred by annoying creaks or scraping as the heating system warms up. TRANE Baseboard Convector heating element is mounted on floating hangers. No noisy sheet metal ducts . . . no noisy fans.

More for the money! TRANE Baseboard Convectors, plus modern hot water heat . . . mean highest sale value for you . . . highest *resale* value for homeowner. TRANE Baseboard heat lasts as long as the home.

For complete information on TRANE Baseboard Convectors, just call your nearest TRANE sales office or write TRANE, La Crosse, Wis., for free bulletin.

THESE FEATURES SELL THEMSELVES



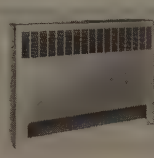
Clean heat! Tell prospects exclusive construction ends dirt streaks on plaster. Rubber sealer on one-piece back blocks heat leaks, the cause of dirt streaking.



Safe to baby's touch! Assure prospects even the heating element is safe to baby's touch . . . and all corners are smooth and rounded to protect probing little fingers.



Cuts housework! Point out streamlined curves. No dust-catching crevices. Bottom is curved for easy access by vacuum cleaner. No messy furnace filters to change.



Where wall space is too limited for baseboard, install low cost, handsome TRANE Convectors in kitchens, bath, halls, basement, garage. Can be recessed or free-standing.

Add these plus sales features

to your houses . . . install modern . . . beautiful

TRANE Baseboard Convectors

Detroit's GARLING CONSTRUCTION COMPANY



Selects *Fleetlite*
AMERICA'S *Finest* WINDOW
for their next 1,000
\$9,000 to \$10,000 HOMES



This Garling Studio House is equipped with Fleetlite double, double hung aluminum windows and picture windows.

Wonderful Sales Story

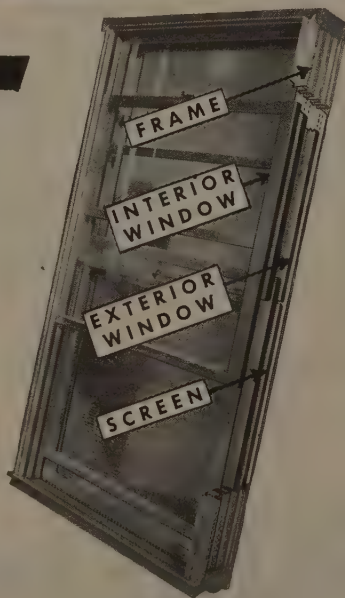
- Garling features Fleetlite windows in new Detroit homes. It's a story of quality, beauty, fuel economy, convenience and lasting freedom from maintenance. They're telling the story and demonstrating the many features over TV; they're dramatizing the complete homes and windows in their newspaper ads.

Saves Time on the Job

- Fleetlite windows are completely assembled and glazed in the factory. They are shipped in corrugated containers ready to nail into place after walls are erected. Time and skilled labor are saved on the job.

You'll find that America's finest windows — Fleetlite — cost far less than you'd expect. See them . . . and discover their unusual features for yourself . . . Let us quote on your plans.

Territories open for full time factory representatives and dealers.



Nationally Advertised
in Consumer Magazines

FLEET OF AMERICA, INC. • 102 Pearl Street, Buffalo 2, New York

NEW PRODUCTS *continued*



Decking will hold workmen and roofing equipment

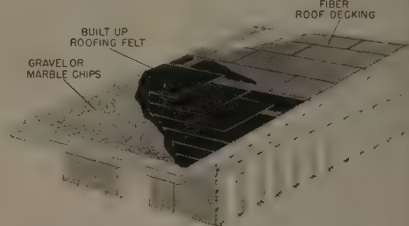
Similar products have long been used successfully in moderate climate areas, but penetration by water vapor from the house, with resulting delamination of built-up roofing layers, has made the fiber roof deck impractical in colder climates. Insulite's decking in-

WOOD FIBERBOARD



PREFINISHED LAMINATION CONTINUOUS VAPOR BARRIER
RUBBER GASKET

corporates a continuous asphalt membrane laminated near the finished surface (warm side), and a resilient rubber gasket cemented in at the factory to prevent vapor penetration at the T&G joints. Tests at the University of Minnesota showed that the board would "minimize any difficulty which might arise from indoor-borne moisture under ordinary conditions of inside temperatures and humidities, with any sustained outdoor temperatures that would be encountered in the US."



Boards are 2' x 8', and come in 1½", 2" and 3" thicknesses. Primarily a wood fiberboard, the decking is waterproofed throughout with asphalt. A white layer is laminated to the interior face, and prefinished with a flame-resistant paint. The sections are applied at right angles to the roof beams, with joints firmly butted. Ends are staggered so that adjacent pieces do not fall on the same member.

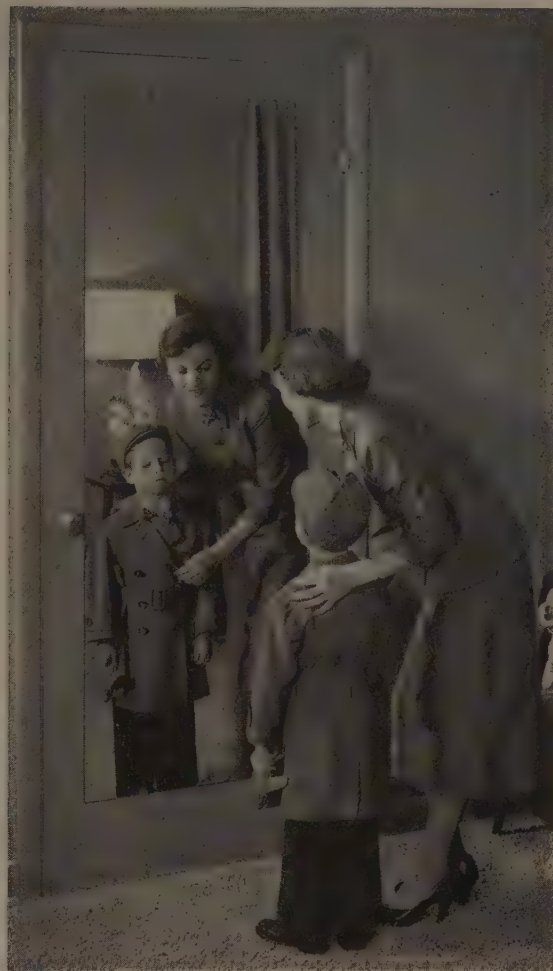
Manufacturer: Insulite, 500 Baker Arcade Bldg., Minneapolis 2, Minn.

continued on p. 216

stamp of *quality* on your homes
and remodeling jobs!



WALL MIRRORS of Pittsburgh Plate Glass, in the bedroom, living room, bathroom, entrance hall, help you sell your homes faster. For they impress prospective buyers with the superior value of your homes. And in renovating work, they're always in big demand. There's nothing like a Pittsburgh wall mirror to add sparkle to a room. It can make a small room look larger—a narrow one appear wider. Pittsburgh has also developed cost-cutting, labor-saving brackets for use in installing even large wall mirrors flush against the wall. They take care of wall irregularities, too. Ask your local Pittsburgh glass distributor for full details.



FULL-LENGTH DOOR MIRRORS are much in demand, in new homes as well as in remodeling work. You'll be wise to include several—in bedrooms, bathrooms and entrances. They're very easily put up. And they come in five widths—16, 18, 20, 22, and 24 inches. All of them are a full 68" in height and are made to fit all standard interior millwork doors of 80" in height. Your nearest Pittsburgh Plate Glass Company branch can fabricate mirrors for doors other than standard heights.

Build it better with Pittsburgh Glass

See Sweet's Builders Catalog for detailed information on Pittsburgh Plate Glass Company products.

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

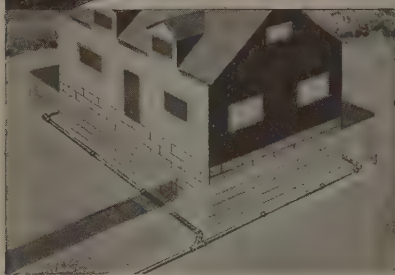
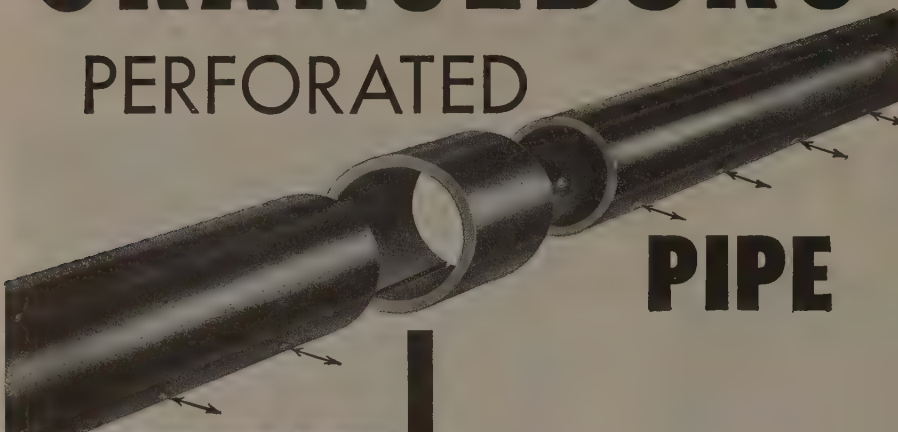
PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

ORANGEBURG®

PERFORATED

PIPE



Foundation Footing Drains For Dry Cellars

Orangeburg Perforated Pipe—for foundation footing drains. A permanently dry cellar increases the value of the house and provides healthful basement area for many useful purposes. Long, light weight 8' lengths with snap couplings are easily installed around outside bottom of house foundation.

The Ideal Seepage Pipe For Septic Tank Disposal Beds

Orangeburg Perforated Pipe—for septic tank disposal fields. Long 8' lengths are easier to lay and establish grade. Two rows of 1/2" perforations on 4" centers permit seepage along entire line. Unique snap couplings assure maintenance of alignment . . . provide permanent joint cover . . . prevent entry of backfill . . . allow complete seepage through slot at bottom.

Draining Wet Spots of Lawns, Fields, Parking Lots, Airports, Golf Courses —and Draining Muckland

Orangeburg Perforated Pipe—maintains continuous seepage without clogging. Doesn't crack or corrode . . . withstands underground conditions . . . lasts indefinitely. New Orangeburg Fittings can be used with Orangeburg Perforated Pipe.

Use Orangeburg Root-Proof Sewer Pipe for House-Sewer or Septic Tank Connections

. . . or for conductor lines from Downspouts, Storm Drains. Orangeburg is America's most popular pipe for all non pressure outside uses—saves money—delivers trouble-free service.

Write Dept. HH34 for data for your files.

ORANGEBURG FITTINGS

for

1. Orangeburg Perforated Pipe
2. Orangeburg Root-Proof Sewer Pipe



1/4 BEND



1/8 BEND



WYE

ORANGEBURG

ESTABLISHED 1893

Manufacturing Co., Inc.

ORANGEBURG, NEW YORK

NEW PRODUCTS *continued*



GENERAL MOTORS "kitchen of tomorrow" draws housewives' eyes from "cars of tomorrow"

While husbands were kicking tires and opening trunk lids at GM's "Motorama" in New York, their wives were gaping at an experimental kitchen, functional but unavailable, designed and carried out by Frigidaire engineers. Among the Buck Rogers ideas:

▶ Ceiling-height wall cabinets that glide down to the outstretched hand.



- ▶ Waist-high refrigerator and freezer (see cut), with vertically sliding doors.
- ▶ Spring-loaded touch latches on all cabinets, eliminating knobs and handles.
- ▶ Photographic viewer for recipes or menus.
- ▶ Flavor dispenser, that passes charcoal or hickory smoke through the oven.
- ▶ Motor-driven flour sifter.

Though the entire kitchen is operational, GM emphasized that it was built mainly as a practical test of both mechanical and design ideas, and while some of the features might be close to marketing, others were years away from mass production.

Manufacturer: Frigidaire Division of General Motors, Dayton 1, Ohio.

"EITHER-OR" REFRIGERATOR DOOR solves the old left or right opening dilemma

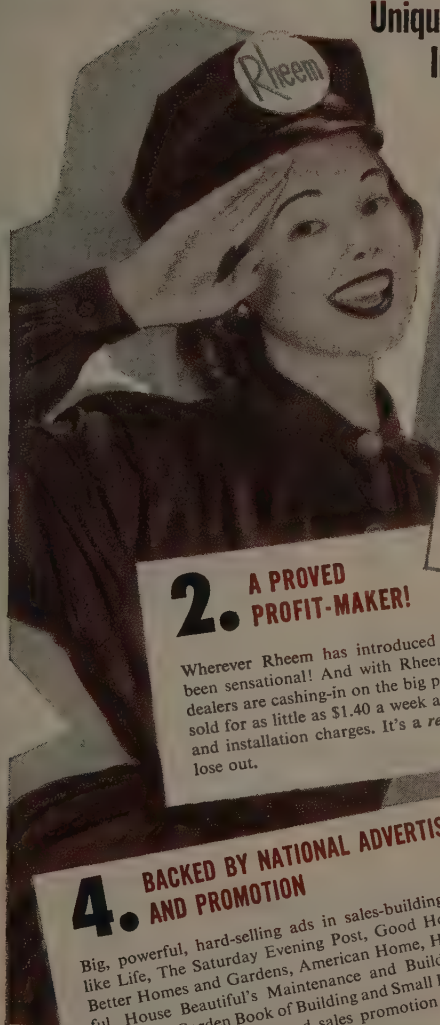
A crowd-stopper at the Builder's Show was the double-hinged door on the newest Philco refrigerator. Opening alternately from the left, then the right, the action smacked of black magic, but offered a practical solution to many a kitchen layout or rearrangement problem. Its ambidextrousness permits opening the door from whichever side is more convenient.

A V-shaped, center-mounted handle is turned toward the opening desired, which *continued on p. 222*

4 GOOD REASONS WHY TOP PLUMBER-DEALERS PUSH THE NEW

Rheem Coppermatic®!

Unique Design Pure Copper Tank Water Heater
Immediate Top Seller Wherever Introduced



1. A COMPLETELY DIFFERENT WATER HEATER!

RUST-PROOF Rheem Coppermatic

AUTOMATIC STORAGE WATER HEATER



COMPLETE PURE COPPER TANK
—for long life!
Rust-proof, corrosion-resistant. Built for long years of efficient service.



INSIDE A COMPLETE STEEL TANK
—for maximum strength. Both tanks have super-strong capsule shapes—Pressure-Proofed at more than twice the normal household pressure!



LOW OPERATING COST—A new, high-efficient flame domed tank bottom. An ingenious flue channels heat around the upper tank surface for faster heating at lower cost.

2. A PROVED PROFIT-MAKER!

Wherever Rheem has introduced Coppermatic, sales have been sensational! And with Rheem's liberal trade mark up, dealers are cashing-in on the big profits! Coppermatic can be sold for as little as \$1.40 a week after a small down payment and installation charges. It's a *real* money-maker—so don't lose out.

3. THAT KEEPS CUSTOMERS HAPPY!

With Rheem Coppermatic home owners enjoy an almost continuous flow of hot water. The Coppermatic heats a new supply of water almost as quickly as you can use it. Coppermatic lasts years longer, eliminates complaints, sells for little more than an ordinary water heater!

4. BACKED BY NATIONAL ADVERTISING AND PROMOTION

Big, powerful, hard-selling ads in sales-building magazines like Life, The Saturday Evening Post, Good Housekeeping, Better Homes and Gardens, American Home, House Beautiful, House Beautiful's Maintenance and Building Manual, House and Garden Book of Building and Small Homes Guide. Dramatic store displays and sales promotion material help you sell.

You can rely on



CASH IN—Send Coupon below!

RHEEM MANUFACTURING COMPANY

HH-3

Send your request to nearest sales office, addresses of which are listed at left.

Please send me complete facts about Rheem Coppermatic profits, advertising and promotion.

NAME

ADDRESS

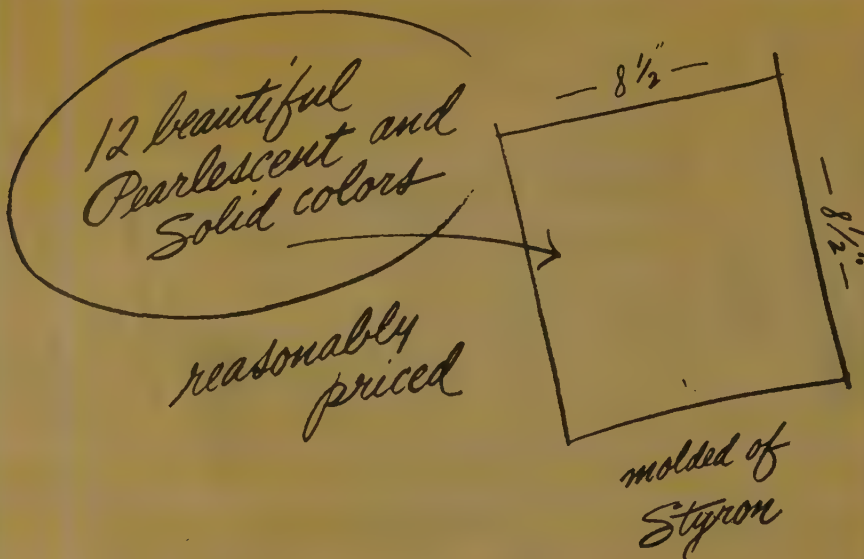
CITY.....STATE.....

RHEEM MANUFACTURING COMPANY

Sparrows Point 19, Maryland
7600 S. Kedzie Ave., Chicago 29, Ill.
1025 Lockwood Dr., Houston 20, Texas

4361 Fireside Boulevard, South Gate, Calif.
800 Chesley Ave., Richmond, Calif.
3693 E. Marginal Way, Seattle, Wash.

Better check up on
Tilemaster Pearl Imperial
8½" square plastic wall tile—
looks expensive
but isn't.... has
more buyer-appeal....
increases appraisal value!



- Remember, too,
- ✓ 8½" molded corner pieces
 - ✓ 8½" "brick style" tiles
 - ✓ Architect approved

Tilemaster leads the field with regular 4½" patented Bev-All... includes 29 molded inside and outside corner pieces in 33 decorator colors.

Write for complete information



See Sweet's Architects' File for the Tilemaster Story

*PATENT APPLIED FOR



leases the hinge on the opening side, and locks the one opposite. It is impossible to release both sides at one time. Capacity: 11 cu. ft. List price: \$479.95.

Manufacturer: Philco Corp., Philadelphia, Pa.

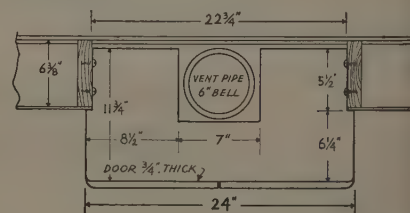


U-SHAPED BATHROOM CABINET fits around vent stack, provides deep storage space

Squeezing storage space into a 5' x 7' bathroom is never easy, but a new cabinet that recesses between studs into the plumbing wall gives over 4 cu. ft. on a wall that is generally neglected (above the water tank).

Compartments on either side of the vent stack provide depth for bulky items like towels, soap powders, toilet tissue, etc., while the shallow center compartments can be used for smaller toilet items. Cabinets are of white enameled steel, but may be ordered with outside primed only for finishing on the job. An ample 24" x 11¾" x 30", the cabinet lists for \$38.60.

Manufacturer: Builders Mfg. Co., 1514 Brown-Marx Bldg., Birmingham, Ala.



continued on p. 228

Craftsmanship...

This Pledge of Performance

is your *written* and *signed* assurance that the lathing and plastering on your job will be in compliance with this newly adopted Code. It is a *written* commitment to work schedules, job cooperation, work of craftsmanship calibre and nationally recognized standards of quality. It is yours for the asking, on specific jobs, from lathing and plastering contractors adhering to the Code of Standard Practices for Lathing and Plastering.



Certified Craftsmanship

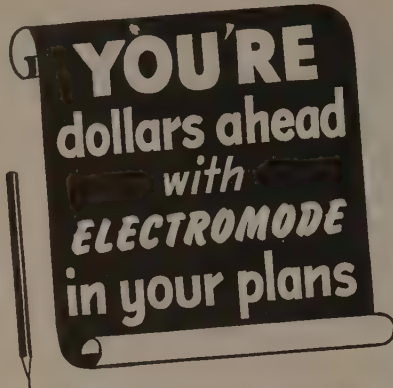
PLEDGE OF PERFORMANCE

We hereby pledge that all lathing and/or plastering performed by us for _____ ON _____

will be (is) in accordance with the Code of Standard Practices for Lathing and Plastering, established by the National Bureau for Lathing and Plastering.

BY _____ DATE _____

For full appreciation of this Pledge of Certified Craftsmanship we suggest a thorough reading of the Code of Standard Practices which appears on the back of every pledge. Ask your contractor for a copy and for the complete story of this significant program.

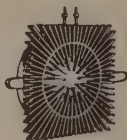


ELECTROMODE ALL-ELECTRIC HEATERS

You put your homes on the Top Preference List when you include Electromode Automatic Electric Heaters in your plans. No basement, vents or ductwork needed. Saves you time and money.

Buyers are quick to decide on homes with Electromode Heaters, because Electromodes have the features they want:

- CLEAN, HEALTHFUL, FAN-CIRCULATED HEAT
- AUTOMATIC TEMPERATURE CONTROL
- SMART, MODERN DESIGNS
- CONVENIENT—SPACE SAVING



Only ELECTROMODE

has the sealed-in CAST-ALUMINUM HEATING ELEMENT. No danger of fire, shock or burn. Guaranteed for 5 years. Built-in safety switch prevents overheating.

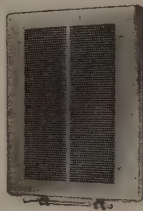
Approved by Underwriters' Laboratories

HEAT for BIG ROOMS

This Electromode wall model distributes heat by down-flow principle, assuring warm floors. Handsome silver grey hammer-tone finish blends with other furnishings.

Model WA

Capacities: 1500 to 4000 watts



For Modern BATHROOMS



Enhance the beauty of the bathroom or any small room with this wall model Electromode. Choice of gleaming chrome or white enamel finish to blend with other fixtures.

Model WJA

Capacity: 1320 watts

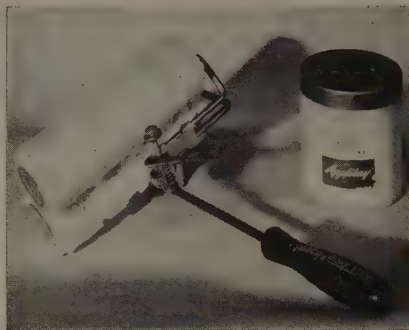
ELECTROMODE CORPORATION

Dept. HH-34, 45 Crouch Street
Rochester 3, N. Y.

Please send free literature with specifications, illustrations, and how to figure and install Electromode Heaters.

Name
Address
City State

NEW PRODUCTS *continued*



CUSTOM DESIGN FOR PAINTED WALLS with patterned twin-roller applicator

Almost limitless combinations of color and design on painted walls are now possible, with a recently perfected twin roller that applies the pattern in a continuous process over



a plain painted background. The overlay paint, *Applikay*, as well as the roller, was developed by the Sherwin-Williams Co., and is recommended for use only with their latex base paint, *Super Kem-Tone*.

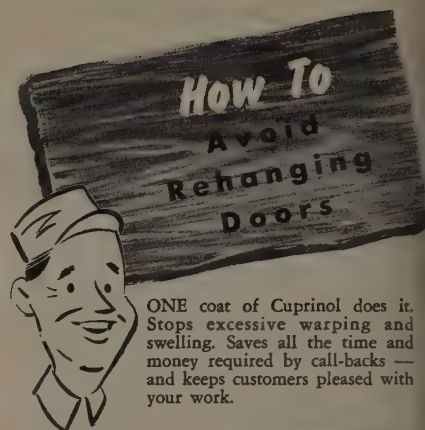
After the base coat has dried (one hour or more), any of five *Applikay* designs may be rolled on. The fabric roller picks up the paint and distributes it over the raised design of the molded plastic roller, which transfers a light film in a nondirectional, nongeometric pattern. Because of the relatively small area of the overlay, less than a quart is needed for the average room.

Five different rollers are interchangeable, and the paint comes in eight colors: white, blue, gold, gray, green, lilac, pink and yellow. Some of the designs can be combined to form individualized effects by cross-rolling the surface, either vertically or horizontally.

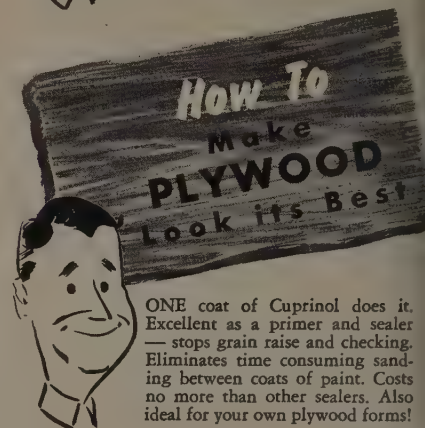
Chemical affinity between the two paints produces a welding of the bond during the curing period, and the manufacturer claims complete washability when used according to directions. (Note: *Applikay* must be applied within three days after the base coat.) Roller price: \$7.69; extra design rollers: \$3.98. *Applikay*: \$3.69 a qt.

Manufacturer: The Sherwin-Williams Co., 101 Prospect Ave. N. W., Cleveland 1, Ohio.

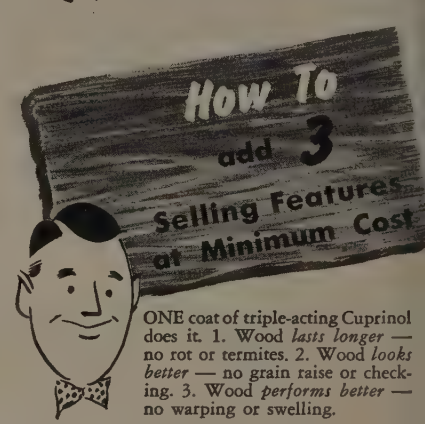
continued on p. 234



ONE coat of Cuprinol does it. Stops excessive warping and swelling. Saves all the time and money required by call-backs — and keeps customers pleased with your work.



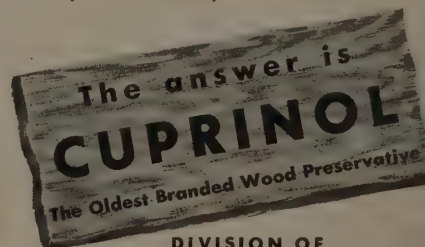
ONE coat of Cuprinol does it. Excellent as a primer and sealer — stops grain raise and checking. Eliminates time consuming sanding between coats of paint. Costs no more than other sealers. Also ideal for your own plywood forms!



ONE coat of triple-acting Cuprinol does it. 1. Wood lasts longer — no rot or termites. 2. Wood looks better — no grain raise or checking. 3. Wood performs better — no warping or swelling.

SAFE TO HANDLE!

Cuprinol is NON-toxic. Will not irritate your employees' skin. Hot weather will not hold up your treating operations, and no protective clothing is required. Available in all standard size containers including concentrate. Write today for the full story.



DIVISION OF
DARWORTH, Inc.
SIMSBURY 6, CONN.

Builder Rates Rusco Prime Windows

"A TRULY GREAT PRODUCT"



**Hobart, Indiana builder,
Henry J. Kranz Now Uses Rusco
Prime Windows Exclusively**

VILLA SHORES MFG. & SALES CO., Inc.

34 BEVERLY BOULEVARD
HOBART, INDIANA

F. C. Russell Company
1100 Chester Ave.
Cleveland 1, Ohio

December 15, 1953

Attention: Mr. B. H. Booms

We wish to express our sincere thanks to your company for introducing us to your line of Rusco Prime Windows. They have been the topic of many, many compliments from our home buyers.

We have used Rusco Prime Windows in our entire 1952 program of 65 homes and during 1953 in 60 homes and we also intend to use them in our 1954 program of 65 homes.

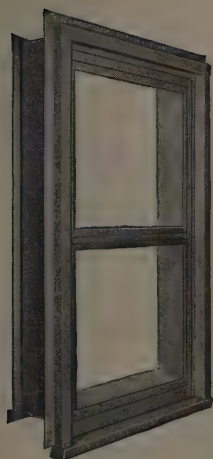
Your insulating sash feature has received great praise from our buyers.

We again wish to express our thanks to your company for a truly great product.

Very truly yours,

Henry J. Kranz
Henry J. Kranz

The Rusco Prime Window with insulating sash is the **ONLY** primary window that provides Magicpanel® year 'round, rain-proof, draft-free ventilation.



RUSCO VERTICAL SLIDE
PRIME WINDOW

Sliding glass panels are removable
from inside for easy, safe cleaning!



Here's Why You Can Build Better With RUSCO:

- Complete, pre-assembled, ready-to-install units. Glazed, finished-painted, screened, fitted with hardware.
- Make big savings in labor. Can be *completely* installed on many types of construction in as little as 5 minutes!
- Available with insulating sash that eliminates need for storm windows—is ideal for air conditioning.
- Wind-tight, dust-tight, easy operating. No sash cords, weights or balances.
- Built-in felt weatherstripping. Fiberglas screen cannot rust, rot, corrode or stain—never needs painting.

SEND FOR FULL INFORMATION

THE F. C. RUSSELL COMPANY
Department 7-MB34, Cleveland 1, Ohio

Gentlemen:

Please send me illustrated catalog and complete specifications on RUSCO PRIME WINDOWS.

Name

Address

City Zone State

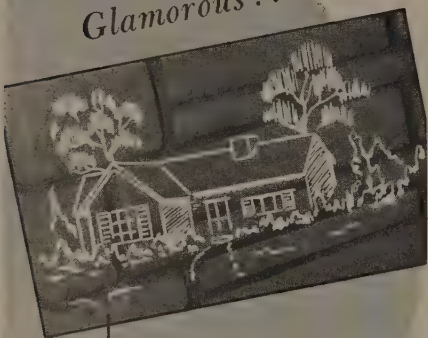
RUSCO

*Hot-Dipped
Galvanized Steel*

PRIME WINDOWS



New...
Different...
Glamorous...



*the look of natural stone
without the COST*

Castle Stone is different because it is preformed. Each stone is hand cast, thoroughly dried, cured and inspected under rigid control conditions.

Castle Stone is more water-resistant and less subject to "weathering" than many natural stones. The styling is graceful and modern. Application is quick and easy over any surface. Exterior maintenance costs are eliminated.

Castle Stone offers true "locked in" colors. It's truly the glamour treatment that adds vitalizing beauty to any home... in the planning of construction and remodeling. Specify Castle Stone for all stone facing construction.

• Get the full story of Castle Stone's many advantages. Write for descriptive literature.

CASTLE STONE, INC.

10TH & SPRING GARDEN STREETS, ALLENTOWN, PA.

Phone HEmlock 3-4531

NEW PRODUCTS *continued*



NEW DRY-WALL TQOL bites out perfect outlet box openings, eliminates patching

Operating like a giant cookie cutter, this tool for the dry-wall installer is claimed to save 80% of the time needed to cut holes for electrical outlet boxes, without any danger of careless workmen cracking or splitting the paper face of the board.

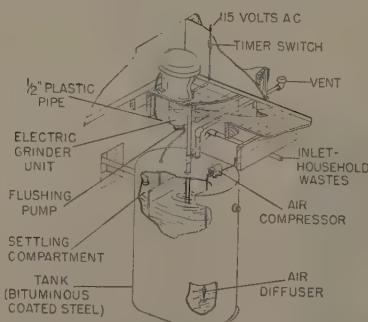
Only three steps are necessary:



1. Snap the cutter plate into the outlet box before the sheet is nailed up.
2. Drill a hole at the center of the outlet.
3. Lock the two cutters together through the hole, then squeeze handles together.

List price for the unit, which consists of the multiple cutter, plus a 1 3/8" hole saw which fits any standard brace, is \$24.95.

Manufacturer: Hartmeister Mfg., Inc., Room 48, 2020 W. Barberry Pl., Denver 4, Col.



SEWERLESS TOILET finally reaches the market; estimated water savings: 75%

Carl Boester's revolutionary sewerless toilet (H&H, Mar. '52), which drew more reader inquiries than any H&H story except the Trade Secrets House, is now being marketed on a limited scale and the inventor says it can be installed at the same cost as a conventional toilet. Water consumption savings are esti-

continued on p. 238

Your plans for that new kitchen will include a garbage disposer

HERE'S WHY

IT SHOULD BE A NATIONAL

- ✓ New Micro-size grinding elements handle *all* food wastes, including bones and fibrous materials.
- ✓ Micro-sizing of food waste particles keeps drain lines scrubbed clean.
- ✓ Micro-Size grinding elements are virtually impossible to "jam" in normal household use.
- ✓ The NATIONAL has a 1/3 h.p. motor as compared to 1/4 h.p. on many disposers.
- ✓ The NATIONAL has only one basic moving part for maximum long life, minimum service.
- ✓ Only NATIONAL offers a choice of SAFETY LOK-TOP Cover and Continuous Feed models.
- ✓ National's Safety LOK-TOP Cover is of one-piece construction—keeps fingers out—food wastes in.
- ✓ NATIONAL is cushioned in rubber for maximum quietness, minimum vibration.
- ✓ NATIONAL installs to sink and drain line in record time.
- ✓ NATIONAL is priced competitively—and costs less to install, less to maintain.
- ✓ NATIONAL is backed by a FIVE-YEAR PROTECTION PLAN for minimum maintenance and service costs.



NEW
MODEL
535

**NATIONAL
DISPOSER**

Dept. HH 354

47 W. Exchange St., Akron 8, Ohio

For full details write today—or use the handy coupon below.

Please send me detailed "Spec" sheets on the NATIONAL DISPOSER.

Name _____

Address _____

read the magazine that tells you
not merely **what** buildings are important
— but **why**

Photographs, plans and descriptions
can tell you much about a building.
But ARCHITECTURAL FORUM tells you this
—and more

You'll find that FORUM'S uniquely
penetrating reports help clear the
way for **your** approach to problems
like these

FORUM'S editors dig deep to uncover
that all-important **reason-why** that
governs building design—the ideas
that solve human, engineering,
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see the **march** issue, which brings you . . .

Schools, with emphasis on units that are
equally suitable for new schools or additions
to old schools. Two new designs,
commissioned by LIFE, show how architecture
can promote the broader aims of education by
providing a favorable environment for individual
development and community living. With case
studies of new schools and expansion projects

Restaurant Remodeling jobs by Mario Gaidano.

Among other things, Gaidano shows how to sell
more ham & eggs by decreasing seating capacity

Plus Paul Rudolph's criticism of Nowicki's
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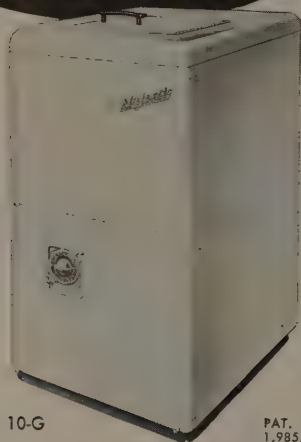
540 North Michigan Avenue, Chicago 11, Illinois

Twin Appeal

FOR HOME BUYERS



Majestic DOUBLE-DUTY Gas Incinerator



MODEL 10-G

PAT. NO.
1,985,962
OTHERS PENDING

Easy disposal of both TRASH and GARBAGE

Extra conveniences often clinch the sale, and this Majestic appliance provides a double punch for your sales story! Ends both the garbage and trash problems through efficient, *downdraft* incineration. Exclusive Majestic features and modern design assure complete satisfaction.

DIMENSIONS—20" wide, 24" deep, 36 $\frac{1}{4}$ " high.

CAPACITY—Two bushels.

FLUE—Requires 7" smoke pipe outlet. May be used with any chimney flue 6" or larger.

BURNER—Monoport, 18,000 BTU rating.

PILOT—Automatic, 1500 BTU rating, dehydrates.

FINISH—Gleaming white enamel over rust-resisting Poly-Kote base.

SEE your dealer or write

The Majestic Co. Inc.

413-A Erie Street, Huntington, Ind.

NEW PRODUCTS *continued*

mated at 75%, and the septic-tank field can be cut by 80% because of the small volume of water discharged.

Components of the system are: toilet bowl (no tank), flushing grinder unit, air compressor, and disposal tank for clarification and treatment of wastes. Wastes pass through the grinder unit, then are oxidized in the treatment tank by the air, which is constantly pumped through the tank by the compressor. If all household water is routed through the unit, an outlet will connect with a conventional, though smaller, septic tank. If desired, the toilet can become a "closed" system, recirculating its own water only. No vents or traps are needed.

All is not savings. The electrically driven grinder and continuously running compressor use approximately 150 w. per hour (\$36.14 annually at the average US power rate), and once a year the few gallons of sediment will have to be removed by a serviceman. However, water savings will often offset this.

Space savings are considerable. The toilet bowl uses a floor space 1'-8" square. The ob-round disposal tank is 60" x 27" x 44", and can be placed anywhere in the basement, or yard, as long as it is 6" below the grinder.

Manufacturer: Carl F. Boester Sewerage Systems, 404 North St., Lafayette, Ind.



AIR CONDITIONING for older houses; units fit into existing ductwork

Central air conditioning can now be incorporated into existing forced warm-air systems with Carrier's new *Add-on Weathermaker*, a silent cooling and dehumidifying unit which fits into the top of the furnace. The air-cooled condenser can go in yard, breezeway or garage.

Compactness (12" high x 32" x 24") permits the cooling unit to replace the sheet metal plenum usually mounted above the furnace. Where floor joists will not give the required 12", the unit can be mounted in the ductwork.

Biggest prospect group for the *Add-on* units is the 3 $\frac{1}{2}$ million postwar houses with modern forced warm-air systems, for conversion would entail few ductwork changes. Many older houses could also convert to central air conditioning if the furnaces were still in good condition. Variations are also available for

continued on p. 244

how to build
**"LONG TERM
VALUE"** into
any home!



WOODLIFE
CONTAINING
PENTAchlorophenol
The Original
WATER REPELLENT
PRESERVATIVE

The Unseen Value You Can Sell

... and Sell!

When you use Woodlife treated wood that goes in the homes you design you're gaining these important advantages...

A Powerful Sales Feature... Because Woodlife so effectively guards against warping, swelling, shrinking caused by water absorption—and gives immunity to termites and decay.

A Higher Value... For the same reasons, lending institutions invariably give higher appraisals to Woodlife-treated homes—to an extent far greater than the small cost of the treatment itself.

Value That Lasts!... Woodlife enables you to present the charm and utility of wood in all its aspects with the knowledge that you're building for LONG-LASTING SATISFACTION!

SEND TODAY for the informative folder, "WOOD PRESERVATION WITH WOODLIFE" which gives test data along with suggested specifications. Ask your retail lumber dealer, jobber, or write:

Protection Products

MANUFACTURING COMPANY

Since 1921

Dept. H

Kalamazoo, Michigan



they'll buy this

"SCR brick" home, Des Moines, Iowa.
Robert B. Metier, builder-designer

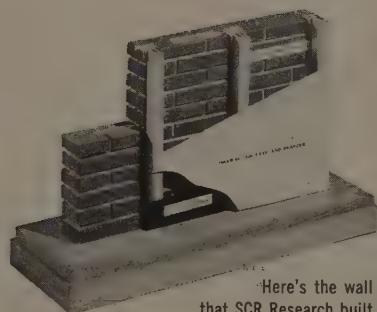
brick homes priced like frame

You can give home buyers
brick's extra value and beauty—
at no extra cost—when you use

SCR brick[®] PATENT PENDING thru-the-wall construction

VALUABLE SALES AID... Your "SCR brick" dealer can show you how to use this scale model of "SCR brick" construction as a helpful selling tool. (right)

USEFUL CONSTRUCTION DETAILS... Free booklet "How to Build Homes that Sell with the 'SCR brick'" gives full construction details. To get one, just write us on your letterhead. Address: Dept. HH-3



Here's the wall
that SCR Research built

STRUCTURAL CLAY PRODUCTS INSTITUTE

1520 18th Street, N. W., Washington 6, D. C.



PLYCO PLASTIC WINDOWS

cut costs

save time

increase sales

...and are guaranteed to last a lifetime

New PLYCO offers a boon to the building industry with the first molded plastic window frame of asbestos and asphalt — reinforced with steel . . . solves many wood and metal window problems.

PLYCO's modular construction with outside dimensions of 32-1/4" x 15-3/4" fits perfectly with 16" x 8" masonry or 8" glass blocks for basement utility windows, ribbon construction or as a glass block ventilator. When used as a glass block ventilator, PLYCO costs up to 50% less than a metal ventilator. Complete unit with combination storm and screen sash, approximately \$13.50 list.

ROT-PROOF
RUST-PROOF
TERMITE-PROOF
NO PAINTING
NO SHRINKAGE
COMB. STORM & ALUM. SCREEN
WITHSTANDS MILD ACIDS, ALKALIS & SALT AIR
LEAKPROOF FRAME
LIFETIME GUARANTEE
FIRE RESISTANT



ARCHITECTS prefer PLYCO's modular construction for use as singles, ribbon, clerestory or glass block ventilators. PLYCO's dimensional stability and inert aspects dispel design problems of moisture, heat, fire, weather or insects in any climate.

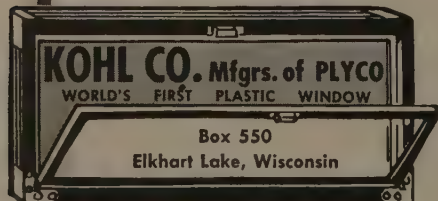


BUILDERS prefer PLYCO for low cost, high quality window flexibility with fast initial installation and maintenance-free features. PLYCO units never need painting. Weather-proof storm, aluminum screen and sash combinations help close consumer sales . . . FAST!



LENDERS safeguard 20-30 year home investments with PLYCO plastic window frames. Their superiority over wood and metal is backed by a LIFETIME GUARANTEE because PLYCO plastic window frames are designed to outlive the house.

Write for FREE descriptive literature on all PLYCO units.



NEW PRODUCTS *continued*

down-draft or reverse-flow furnaces.

A thermostat panel interlocks with the furnace electrical controls to give summer and winter operating control. A simple switch changes the system from summer to winter operation and back again.

Two-ton units (up to 1,200 sq. ft. house) will cost \$900 installed, with 3-ton units approximately \$200 more.

Manufacturer: Carrier Corp., Syracuse, N.Y.

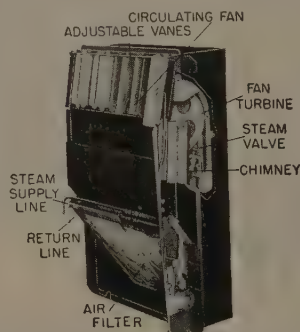


MECHANICAL THERMOSTATS make each room a separately controlled heating zone

Fast response, full modulation, zone control and elimination of all electrical connections are the characteristics of Iron Fireman's new *Selectemp* convector units which use low-pressure steam to warm and circulate room air.

Each heater (6,000, 12,000 or 18,000-Btu capacity) is fully automatic, consisting of a copper heat exchanger, steam turbine-driven fan, air filter, and self-contained mechanical thermostat. Units on outside walls fit between studs and protrude only 2-5/8" into rooms.

Room air is continuously sampled by the



bimetal thermostat. and a thermal bulb admits steam to the unit whenever temperature drops below the desired level. A turbine-driven fan pulls room air past the heat exchanger and a filter then circulates it through the room, with direction changeable by adjustable vanes.

Steam lines are flexible copper tubing, 1/4" for supply, 1/8" for return. No steam mains are needed for the average-size house, for lines to and from individual heaters connect with manifolds on the boiler.

Prices are subject to contractor's bids, but *Selectemp* installed in an average five-room house (6 units) in the Cleveland area costs \$1,100 to \$1,200, including boiler and domestic water heater.

Manufacturer: Iron Fireman Mfg. Co., Cleveland 11, Ohio.

continued on p. 248

You can't top this for Sales Appeal!



The Automatic Gas-Fired Incinerator

Your prospects, too, will want an Incinerator — eliminates "messy carrying of trash and garbage to backyard cans."

Incinerator is a "MUST" in every home you build. You get "plus" sales appeal with Incinerator — the proven, sanitary way to dispose of all wet or dry garbage and burnable rubbish — completely automatic, too!



Approved by American Gas Association

Install Incinerator in utility room or basement.

Write Today For Details!

INCINERATION DIVISION
BOWSER, INC. • CAIRO, ILLINOIS

KOHLER FITTINGS

have features that insure satisfaction

Kohler chromium-plated fittings match Kohler Fixtures in beauty, lasting serviceability. Sell your customers the satisfaction of owning both.

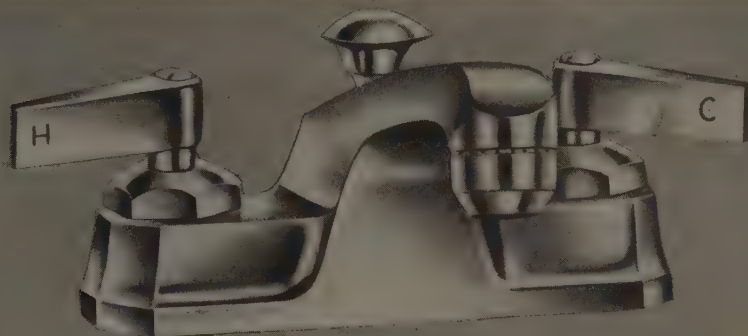
Metal to metal contact is true and close. Threads are double-action, deep and cleanly cut, for quick, positive control of water flow. Large waterways provide ample volume. Valve seats are removable for easy maintenance. Threaded escutcheons eliminate the necessity for

holding nuts. Frequent inspections during manufacture, and tests under water pressure further insure reliable operation.

Aerator spouts, optional on sink and lavatory fittings, reduce splashing, improve suds action. The Triton shower head has a volume regulator, ball swivel joint. The Niedecken mixer requires but one wall opening, is adjustable to various wall thicknesses, has a single handle for easy control of water temperature.



K-7027 Triton shower and bath fitting with Niedecken mixer.



K-8005-A Centra lavatory fitting with pop-up drain.



K-8601-A Edgewater sink fitting.



Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS



Adds Visible Value to any Home!

PLYALOY®

pre-cut overlaid plywood

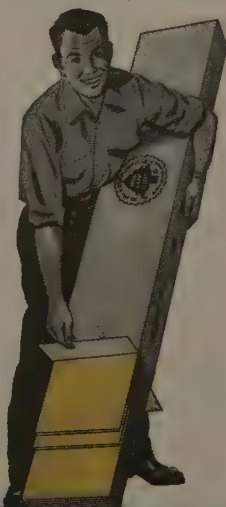
SIDING

Fused resin-fiber surface
Exterior-Type Fir Plywood
(EXT-DFPA)

★ D.F.P.A. INSPECTED
A Product of the Plywood Industry

Combines the economy, strength, rigidity and workability of D.F.P.A.-Inspected Exterior-type fir plywood—the durability, paintability and lasting beauty of a tough, smooth resin-fiber surface. Edge beveled for drip.

**Fused Resin-Fiber Overlaid Exterior Fir Plywood Siding,
Pre-cut to 12", 16" and 24" widths; Packaged for Protection**



HERE'S everything you want in a siding material. Plyaloy siding saves on-job time. It comes pre-cut—packaged "by the square" for convenience and protection.

Plyaloy siding is easy to install, has one of the finest paint surfaces you ever saw! Gives maximum protection against grain-raise or checking. All panels are standard 8' lengths. Ends are square; lower edge is beveled for drip. No trimming required.

For beauty that attracts buyers, durability that keeps them sold—specify **PLYALOY** pre-cut siding.

Write for DATA on this superior new siding material: (Plyaloy also available in standard plywood sizes.) St. Paul and Tacoma Lumber Company, Dept. HH, Tacoma 2, Washington.



ANOTHER MEMBER OF THE FAMOUS TREE LIFE FOREST PRODUCTS FAMILY

NEW PRODUCTS *continued*

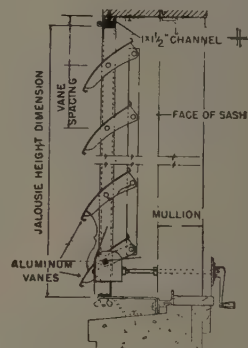


EXTERIOR JALOUSIES reflect heat, stop glare

Any house can be air conditioned—the trick is to do it with the least equipment. An aluminum jalousie, operated from within the house, claims to eliminate as much as 12,000 Btu's of solar heat for every 100 sq. ft. of east or west window. It would take a full ton of refrigeration to remove this much heat, which would cost as much as \$600.

The aluminum vanes are adjustable over a 110° arc, thus permitting light to be deflected to the ceiling, while excluding the direct rays of the sun. ASHVE tests have shown that exclusion of solar heat from windows will reduce the temperature as much as 16°, a significant saving in west fenestrations.

Though the units are fixed in the casements,



they are hinged at the top for easy access to windows for cleaning. Widths of standard units are limited to 4'-6", though special models are available to architects' specifications. Cost: 4' x 4', \$34-\$45; 3' x 6', \$50-\$60; plus installation.

Manufacturer: Lemlar Mfg. Co., 715 W. Redondo Beach Blvd., Gardena, Calif.

SHADOWPROOF SHADES bounce sun rays right back out the window

For low-cost sun control, dealers in du Pont's Tontine window shades can make up white-surfaced, opaque shades of laminated Triplex, a black fabric surfaced with pigmented vinyl.

Originally used in hospitals and schools for obtaining daylight darkness, the shades have a glossy whiteness that reflects 55% of the sun's radiant heat. Cost for an average 24" x 72" window: \$5 to \$5.50, as compared with \$3 to \$3.25 for translucent shades.

Manufacturer: E. I. du Pont de Nemours & Co., fabrics division, Newburgh, N. Y.

continued on p. 252

KENCORK floors cost no more than hardwood when installed over concrete on grade

Makes homes worth more...sell faster...trade-in easier

A.I.A. 23-G



Photograph: MAURICE BAUMAN

Interior Design: F. STANLEY HAGGART

Sample tiles available on request. Get your supply from the Kentile, Inc. Flooring Representative nearest you. He's a trained and experienced expert...fully qualified to help you solve any and every flooring problem that may arise. For his name and phone number, contact the nearest Kentile, Inc. regional office listed below.

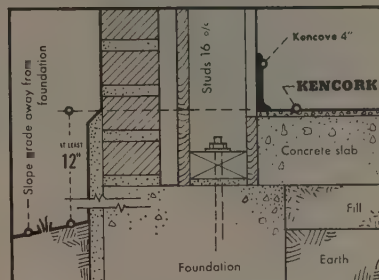


Kencork is the floor your clients know and want...

BACKED BY MORE FULL-COLOR ADVERTISING THAN ANY OTHER CORK FLOOR

KENTILE * SPECIAL KENTILE * KENCORK * KENRUBBER * KENFLEX *

KENTILE, INC., 58 Second Avenue, Brooklyn 15, New York • 350 Fifth Avenue, New York 1, New York • 705 Architects Building, 17th and Sansom Streets, Philadelphia 3, Pennsylvania • 1211 NBC Building, Cleveland 14, Ohio • 900 Peachtree Street N.E., Atlanta 5, Georgia • 2020 Walnut Street, Kansas City 8, Missouri • 4532 So. Kolin Avenue, Chicago 32, Illinois • 4501 Santa Fe Avenue, Los Angeles 58, California



Install Kencork over any interior surface...even over concrete in contact with the earth where drainage is away from the installation; sub-floor is 12" above surrounding grade.

Kencork, one of the most desired floors known today, adds dollars and cents value to any home...by offering advantages and features that can't be equalled. Only *pure* cork is used...compressed to a fraction of its original bulk...without artificial binders. The result is a tile that yields rather than abrades under pressure...cleans easily...helps insulate rooms in all weather...remains quiet, warm, dry and comfortable underfoot. Kencork is preferred, too, for the beauty and subtlety of its random shadings...its remarkable ability to fit perfectly with any room scheme, color or period.

Specifications and Technical Data

Installation: Over any smooth, dry interior surface—over radiant heating—over concrete in contact with the earth (see diagram above) when new KenSet Adhesive* is used.

Thicknesses: 3/16" and 5/16": factory or natural finish.

Sizes: Standard floor tile sizes are 6" x 6", 6" x 12", 9" x 9", 3" x 18", 12" x 12" and 12" x 24"...wall tiles in same sizes.

KENCORK
FLOORS | WALLS



*Reg. U. S. Pat. Off.

NEW HOMES SELL FASTER

with MONEY SAVING . . . TIME SAVING . . .
SPACE SAVING . . . LABOR SAVING

NATIONAL PACKET-BASEBOARD AUTOMATIC HOME HEATING SYSTEMS



Quicken the buying interest of feminine prospects (and the men too) with the many "plus-comfort" features of the National Packet-Baseboard heating system.

The Model K Packet is a completely automatic combination forced hot water heating unit and domestic hot water supply . . . factory assembled for fast, inexpensive installation . . . 36-inch high white enameled cabinet . . . exclusive Raytrol control . . . components backed by one manufacturer.



National Art Baseboard is true floor-level perimeter heating. It delivers a blanket of warmth—gentle, adequate and health-protecting . . . no drafts or cold spots . . . quickly and easily installed . . . safe to children's touch . . . inconspicuous and space-saving . . . fast-acting and efficient.

Have National Packet-Baseboard hot water heating systems installed in the homes you build. They'll help to sell your homes faster—and you can depend on their efficient performance with complete satisfaction to the home owner.



Write for full information—ask for Bulletin No. 595-3-HH

THE NATIONAL RADIATOR COMPANY
JOHNSTOWN, PENNSYLVANIA

NEW PRODUCTS *continued*



Table-top units and built-in ovens are introduced by a major appliance maker

The growing popularity of decentralized kitchens, with their eye-height ovens built into walls, has brought Hotpoint into the market with a stainless-steel-faced oven and counter-top cooking unit, available together or separately. Counter-top unit is 34" x 20", needs only 6 1/8" depth in counter. Oven dimensions are 22" x 28" x 24". Recommended retail price for the cooking unit is \$160; oven, \$185.

Manufacturer: Hotpoint Co., Chicago 44, Ill.

Right-side-up refrigerator-freezer puts everyday foods on top, frozen foods below

Recognition of the growing use of frozen foods is apparent in the division of space in this dual-temperature unit; the ample 10 cu. ft. igloo for frozen foods is 2 cu. ft. larger than the 8 cu. ft. normal refrigerator space. The fresh-food compartment is placed above waist level for convenience. Price: \$799.50.

Manufacturer: Jordan Refrigerator Co., Philadelphia, Pa.



Technical Publications p. 180

Now

A THERMOSTAT IN EVERY ROOM

at a cost which permits its use in any building
from the smallest home to the largest
residential or commercial building

SelectTemp

An advanced new method of heating with comfort
standards far beyond those of conventional heating systems

Iron Fireman SelectTemp is a central heating system with a revolutionary type of room unit that provides *continuous modulated heat* which is automatically regulated by an *individual thermostat in each room*.

SelectTemp therefore has two features (among many others) that set it apart from other types of heating. *First*, it is capable of full modulation down to 1/20th of its capacity. SelectTemp is not an on-and-off

type of heating, nor is it a two, three or four speed arrangement. Warm, filtered air flows *continuously and quietly* at the rate necessary to maintain room temperature at the level selected. *Second*, each unit has its own thermostat. The occupants of any room can have the temperature they desire at any time. Heat in unused rooms can be lowered to 40°. A change in thermostat setting brings very rapid response.

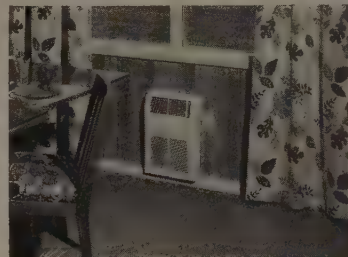
For any kind of building

The SelectTemp system can be economically installed both in new and existing buildings. It is a very practical heating method adaptable to most any size or type of application. Never before has such ideal comfort been achieved at a cost that makes it practical for the smallest home or the largest residential, institutional or commercial building.

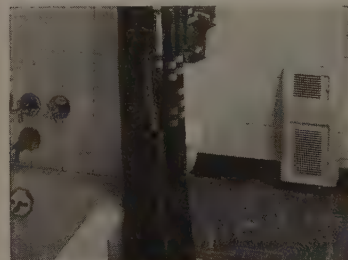
For complete information and specifications please mail the coupon below.



LIVING ROOM with SelectTemp heating unit recessed on wall. Units are unobtrusive and can be finished in any color to fit the decorative scheme.



DINING ROOM, showing SelectTemp unit which has 12,000 Btu per hour maximum output capacity.



BATHROOM has 6,000 Btu unit. Automatically modulating units require no electrical connections.

SelectTemp Highlights

THERMOSTAT IN EACH ROOM. Temperatures can be varied in every room to fit the "activity plan" and personal preference of the occupants.

MODULATED HEAT. Air circulation is continuous. Both temperature and volume of air is automatically modulated, as required to offset heat loss from room.

FILTERED, CIRCULATED AIR. Individual room air circulation prevents transmission of odors or bacteria from other rooms. Air is cleaned by a spun glass filter in each room unit. Filtered outside air can be introduced if desired.

BOILER LOCATION. Does not require centrally located heating plant. Boiler can be placed in any desired location, with proper distribution of heat to every room.

LOW POWER COST. No electricity required to operate circulating fans. Nonelectric thermostats.

LOW INITIAL COST. No other system can be so easily installed in either new or old construction. Small soft copper tubing (1/4 inch I.D.) carries steam to individual room heater units. Return lines are 1/2 inch. Tremendous savings in installation costs.

LOW FUEL COST. Temperature easily reduced in unused rooms. Eliminates overheating.

AUTOMATICALLY BALANCED. No special adjustments of dampers, valves or orifices required to balance heating system. Each unit continuously regulates heat needed for each room. Automatically compensates for external heat sources such as fireplace or solar heat, without affecting temperatures of other rooms.

SelectTemp

TRADE MARK



PRODUCT OF IRON FIREMAN

Send for full
information

IRON FIREMAN MANUFACTURING CO.
3173 W. 106th Street, Cleveland 11, Ohio.

Please send literature on Iron Fireman SelectTemp Heating.

Name

Address

City

State

Copyright 1954—I. F. Mfg. Co.

the Quality of NEW MONARCH IN-A-SLIDE all-steel BASEMENT WINDOWS is in their Superior Design and Construction

Yes, it's their machless construction and design that make In-A-Slides supreme—and this supremacy is the reason for the ever increasing demand among builders everywhere for these peerless windows.

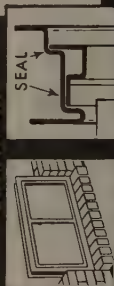
- In-A-Slides are of better design and stronger construction. Outstanding in quality.
- In-A-Slides are double weather-protected.
- In-A-Slides' quickly removable sash are interchangeable.
- In-A-Slides afford deflected ventilation.
- In-A-Slides are easier to handle and easier to install.
- In-A-Slide windows, screens and storm sash are phosphate coated and will resist rust.
- In-A-Slides' popularity is soaring to a new height throughout the home building field.

See your dealer today. Ask for All-Steel In-A-Slides.

When you think of Basement Windows... think of
NEW MONARCH MACHINE & STAMPING COMPANY
425 E. NINTH STREET
DES MOINES 9, IOWA



Sash Easily and Quickly Removed



Seal—Tight Seal—Doubly Weather-Protected



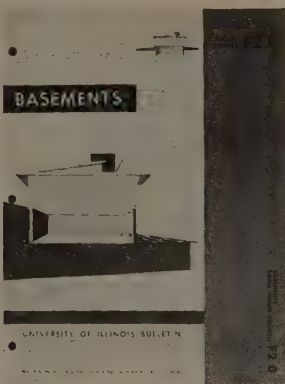
Equally Installed—Stands by Itself

MULLIONS

used with standard In-A-Slides make sturdy multiple window units of up to 6 windows each.

SCREENS AND STORM SASH TO MATCH

TECHNICAL PUBLICATIONS



BASEMENTS. Circular Series F2.0. Small Homes Council, U. of Illinois, Dept. HH, Urbana, Ill. 8 pp. 8 1/2" x 11". 10¢

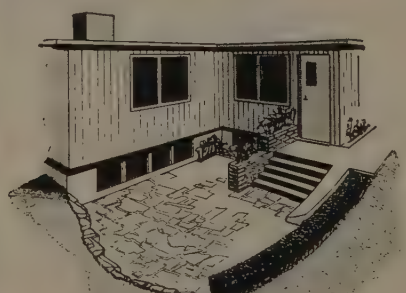
Basement vs. slab is a subject good for an argument wherever builders gather, but there can be no disagreement that few basements are so light, dry and useful as they might be. Small Homes Council's pamphlet is packed with ideas—like olives in a jar—for getting the most out of basements (and in the case of water, keeping it out!).

Light and air will change the dankest cellar to desirable living space, and SHC devotes a



page to means of daylighting the basement on both level and sloping ground. Sample:

"A well-lighted basement for a house on a level lot can be achieved by setting the top of the basement wall 2' to 3' above the lot level and grading up to the front yard only. Basement windows, 2' to 3' high, requiring no areaways, can be provided at the sides and rear of the house; at the same time, the front will retain the 'low-to-the-ground' appearance that most people like." (Note: this is possible only where local grading requirements permit grading to sides and rear.)



continued on p. 260

NOW AUTOMATIC HEATING WITHOUT COSTLY INSTALLATION



QUALITY-ENGINEERED BERKO GLASS RADIANT HEAT PANELS ALLOW MORE FLOOR SPACE, PROVIDE SERVICE-FREE OPERATION.



Whether you are planning remodeling or new building, investigate Berko Glass Radiant Heat Panels. Eliminates fuel and storage problems, no pipes, no ducts, no costly installation. Mounts on wall, ties into the electrical system.

Today's home owner expects the exclusive advantages of glass radiant heating. And with Berko—the leader in the field—you get clean, safe, efficient heat. Economical too.

Thousands of home owners, motel operators, and industrial superintendents find Berko panels the modern, convenient way to automatic comfort. All four models are Underwriters' Laboratories approved and carry a 5-year factory warranty. Available through leading electrical contractors. Get your copy of the New Berko Computation Manual now. Send coupon below.

BERKO

BERKO GLASS RADIANT HEAT INSURES AUTOMATIC COMFORT

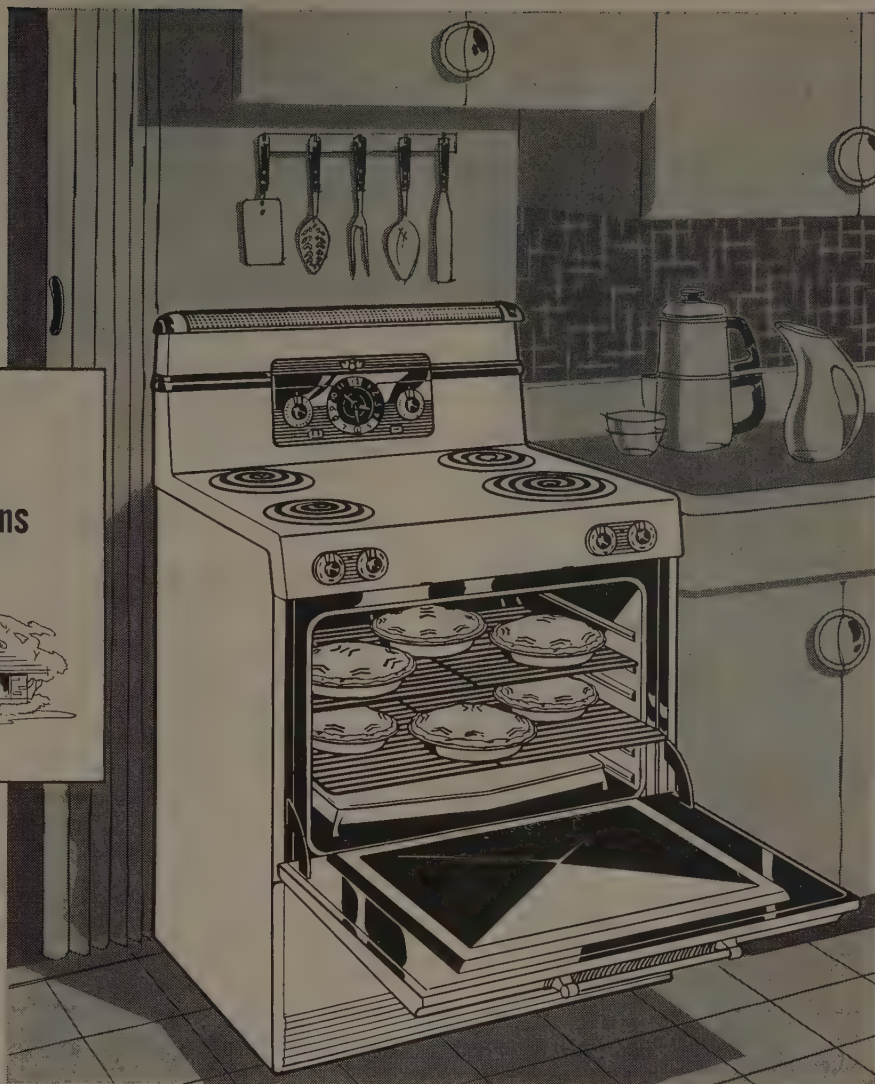
Berko Electric Mfg. Corp. Dept. H-3
212-40 Jamaica Avenue, Queens Village, N. Y.
PLEASE SEND COMPUTATION MANUAL.

Name
Address
City..... Zone..... State.....

You can sell new homes faster
with Frigidaire Equipped Kitchens



Deluxe Model RT-38 — only 30 inches wide, yet its Giant Thrifty Oven holds six pies. Has Imperial Cook-Master Oven Control, Two-Speed Electric Time-Signal, Oven Signal-Light, full-width Fluorescent Cooking-Top Lamp, Automatic Appliance Outlet, Radian-tube 5-speed Surface Units, Oven Interior Light, Full-Width Storage Drawer, Lifetime-Porcelain finished cabinet, top and oven.



Only the FRIGIDAIRE THRIFTY-30 puts all this big range quality, convenience, capacity into modern compact kitchens

This is the size range—first introduced by Frigidaire—that's really made for today's building plans. Without sacrificing anything, all the plus features of a full-sized electric range are fitted into just 30 inches of width. Full-width giant oven roasts a 30-lb. turkey with room to spare. Imperial Cook-Master Oven Control on De Luxe Model turns oven on . . . cooks food at right temperature for correct time . . . turns it off . . . signals meal is ready. Other features include waist-high Broiler, four fast-heating Radiant-tube Surface Units with five accurate heat choices and Lifetime Porcelain finish inside and out. Available in two models—RT-30 and Deluxe RT-38.

Landlords have also found that the Frigidaire Apartment-Sized Range, only 21 inches wide, is a great boon in helping rent new apartments. The

complete line of Frigidaire ranges includes 12 models—in 21, 30 and 40-inch widths.

A Frigidaire Range is just one of the *many* kitchen appliances that most prospective home buyers can include in their mortgage payments today. To anticipate this desire for appliances, more and more architects and builders specify Frigidaire equipped kitchens in their plans in order to *sell* the homes

they build much faster.

For complete details on Frigidaire Electric Ranges, Refrigerators, Food Freezers or Laundry Equipment call your Frigidaire Dealer—or the Frigidaire Distributor or Factory Branch that serves your area. Look for Frigidaire under "Electric Appliances" in your phone book. Or write Frigidaire, Dayton 1, Ohio. In Canada, Toronto 13, Ontario.

FRIGIDAIRE Appliances



BUILT AND BACKED BY GENERAL MOTORS

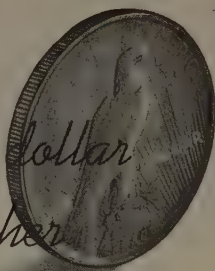
Refrigerators • Electric Ranges • Air Conditioning • Food Freezers
Home Laundry Equipment • Electric Water Heaters • Electric Dehumidifier

**THE original SASH
BALANCE**



NO

*building dollar
goes farther*



because this combination sash balance and weatherstrip has been proved and tested on over 4 Million windows for more than a decade.

**MASTER NO-DRAFT
SASH BALANCE**

(At left is actual photograph)

The economy of quality is inherent in this equipment. It has long been established as a sales feature in new homes, as well as a low-cost and efficient means of modernizing windows in old homes. It is easy to install. It is durable and gives finger-tip control. It eliminates expensive box frames, pulleys, ropes, chains and weights. Requires no maintenance and will outlast the window.

AN "AIR CONDITIONING" MUST

Proper mechanical conditioning of temperature, in both winter and summer, requires weather protection at all openings. The weatherstrip feature of this sash balance provides an ideal seal under all atmospheric conditions against air infiltration, as well as dust and dirt.

Write today for full information. Learn why Builders have accepted this MASTER Sash Balance and Weatherstrip unit as the standard of quality.

MASTER METAL STRIP SERVICE, INC.
1724 No. Kilbourn Ave., Chicago 39, Illinois

- ☐ Please send me the description and installation data about Master No-Draft units.
☐ I am also interested in standard weatherstrip equipment of Master quality.

NAME _____

ADDRESS _____

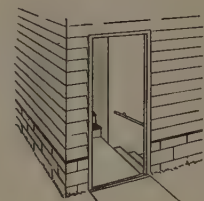
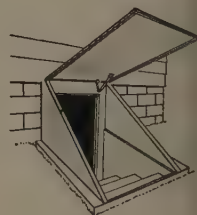
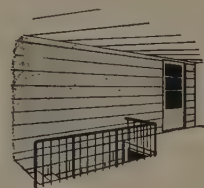
TECHNICAL PUBLICATIONS *cont'd.*



Sloping sites are perfect for "daylighting"

Where the grade cannot be kept below basement windows, areaways are suggested, with sloping sides to admit the maximum light. If space permits, the areaway can be extended to form a sheltered patio or sunken garden.

In treating the design of basements, SHC advocates a direct exterior basement entrance to increase its usefulness for hobbies, laundering and storage of tools. For best weather protection, this entrance may be located under



cover of garage, breezeway or porch. Where this is impossible, there are many modern versions of old-fashioned cellar doors.

The remainder of the booklet is given over to leaky basements—their prevention and cure, with every known precaution itemized except the hoary admonition: "Sell the land and build somewhere else." Construction recommendations are made for basements with mild, average and severe moisture conditions, and illustrations are clear and plentiful. All of the problems are faced, and the booklet shows that a dry basement can be engineered and doesn't have to be considered a stroke of good fortune.

continued on p. 264

An Important Announcement about a new concept in American living

— DESIGNED BY
GEORGE NELSON

● THERE IS A VAST MARKET, virtually untapped, for excellently-designed contemporary houses in the medium price range. American Houses, Inc., realizing this, commissioned famous stylist George Nelson to prepare plans for just such a house.

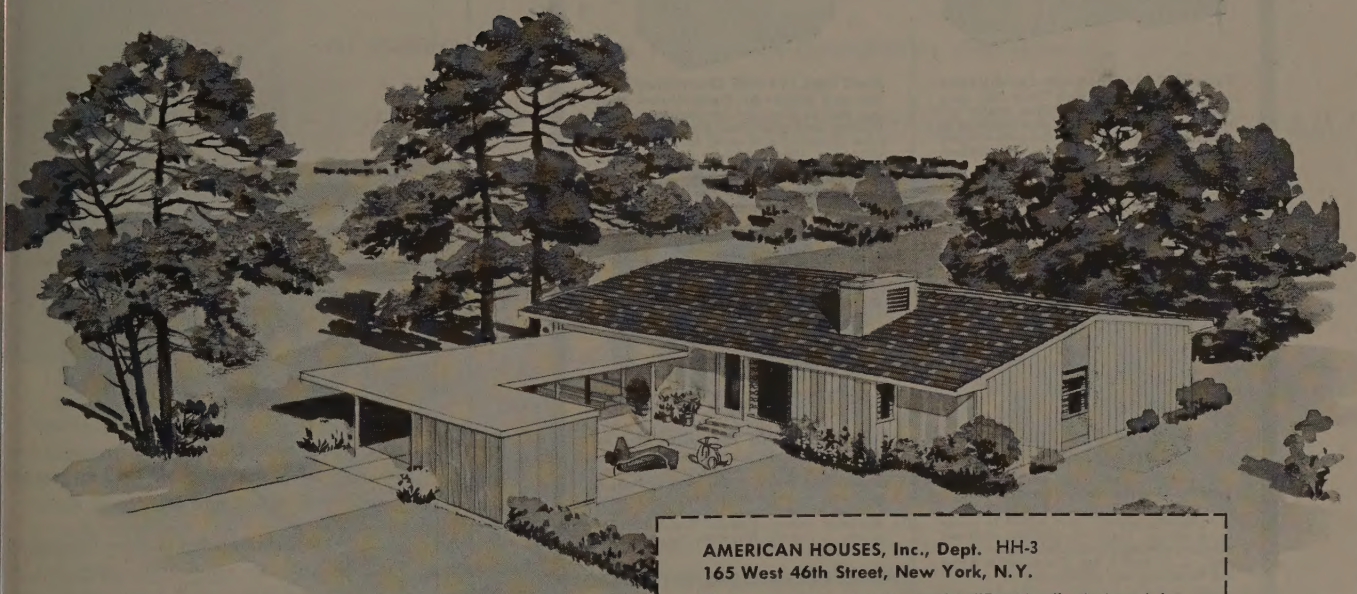
The "Freedom", with three generous bedrooms, is the result. Its airy, open plan brings a feeling of spaciousness, and simplifies housekeeping. Year-round air-conditioning designed into the house by Carrier assures comfort and helps reduce drudgery still more. A complete Youngstown Kitchen is another work-saving element.

Countless other features add immense popular appeal to this house, making it look like a custom-designed home. Among them are a storage wall with a drop-leaf desk in the living room, a built-in vanity in the master bedroom, twin washbasins in the divided bathroom, ceiling-high closet doors in all the bedrooms, a glass-walled family room, a carport and an outside storage room.

The "Freedom" with crawl-space will sell for approximately \$16,000 in the North, \$14,000 in the South, *turn-key price!* You can see that this represents truly unusual home-value. It is obvious, too, that this house is tailor-made for the thousands of 2 bedroom homeowners who now need larger quarters.

American Houses is backing builders of the "Freedom" with a powerful local promotion program, including large space newspaper advertising plus abundant help in all other phases, tailored to fit individual needs.

For further information on the "Freedom" and its variations, plus local promotion plans, send the coupon today! You will find the American way to greater sales is the profitable way for you!



"FREEDOM"
BY



AMERICAN HOUSES, Inc., Dept. HH-3
165 West 46th Street, New York, N. Y.

Please send me details on the "Freedom", designed by George Nelson.

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

American Houses Inc.

165 WEST 46th STREET • NEW YORK, N. Y.

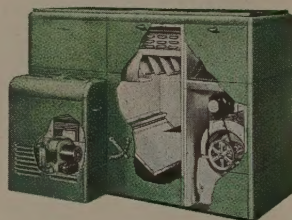
Mueller Climatrol

OFFERS YOU COOLING THAT SELLS HOMES

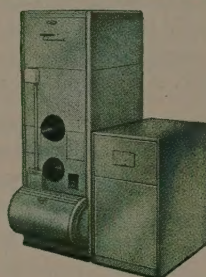


... with the most complete line for all your needs — a quality-built line that features advanced design and handsome styling.

New! Type 224-906 Companion Units — For all-season air conditioning. Heating unit sizes are 80,000, 100,000, 125,000, and 150,000 Btu input. Cooling unit is available in 2-hp and 3-hp sizes; has own blower. Heating units may be interchanged with the cooling models to suit any climate condition.



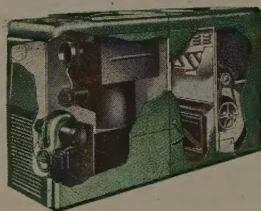
Type 901 Summer Air Conditioner is designed for use with Type 105, gas-fired, and Type 202, oil-fired winter air conditioners, as shown. It consists of a cooling coil and features a by-pass damper arrangement for convenience and efficiency. Sizes 3, 5, and 7½ hp.



New! Type 115-905 Counterflow Summer and Winter Air Conditioner— Heating and cooling for perimeter systems. Cooling unit also ideal for horizontal or attic furnaces, and other small-space applications. Has complete enclosed refrigeration system. 2 and 3 hp.



Type 903 Self-Contained Cooling Unit— Can be installed with any new winter air-conditioning system — or added to existing systems. Contains complete enclosed refrigeration system in one compact package. 2, 3, and 5 hp. Shown with Type 110-80 winter air conditioner.



Type 916 Summer Air Conditioner — For use with Types 116 and 216 (as shown) winter air conditioners. Cooling module fits between the heat exchanger and the blower filter unit. By-pass damper arrangement provides utmost efficiency in any climate. 2 and 3 hp for 90,000 — 150,000 Btu input furnaces.

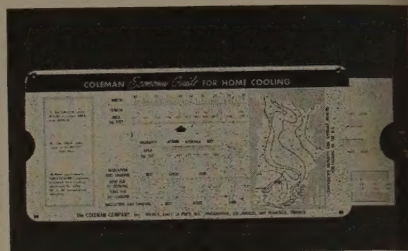


Type 910 Recessed Summer Conditioner — For cooling new or old homes, motels, apartments, office buildings, and homes with radiator heat. Installs under window between two standard studs. Air-cooled, requires no plumbing connections. ¾-hp and 1-hp sizes.

Mueller Climatrol
2020X W. Oklahoma Avenue
Milwaukee 15, Wisconsin
Tell me more about the complete Mueller Climatrol line of Cooling. Send your All-Products Cooling Catalog.

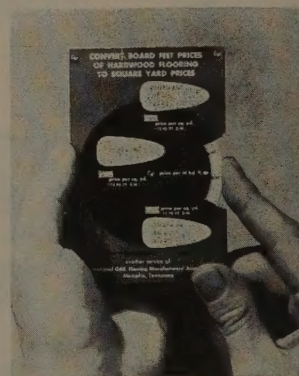
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Company Name _____
Address _____
City _____ (_____) State _____
D-165

TECHNICAL PUBLICATIONS *cont'd.*



AIR CONDITIONING. Economy Guide for Home Cooling. The Coleman Co., Inc., Dept. HH, 250 North St. Francis Ave., Wichita 1, Kan.

Available free to builders and architects, this handy slide rule instantly determines the size of air conditioner needed to cool a house either 15° or 20° below outside temperatures, taking into consideration size of house, humidity, insulation and shading. On the reverse side, the calculator prefigures operating costs according to local electric and water rates. As useful to the builder or air-conditioning dealer as the folding rule to the carpenter, the economy guide should cut down on "horseback guesses" on operating costs that destroy goodwill in the buyer when they are too far off.



OAK FLOORING CALCULATOR. National Oak Flooring Mfrs. Assoc., Dept. HH, 814 Sterick Bldg., Memphis 3, Tenn. 15¢

Intended for retail lumber dealers, this gadget instantly converts oak-flooring prices per M bd. ft. into a square-yard figure, more easily understood by across-the-counter customers. Various flooring widths and thicknesses and a wide range of prices are covered.

FRAMING. Light Steel Structural Sections. Penn Metal Co., Inc., Dept. HH, 205 E. 42nd St., New York 17, N.Y. 12 pp. 8½" x 11"

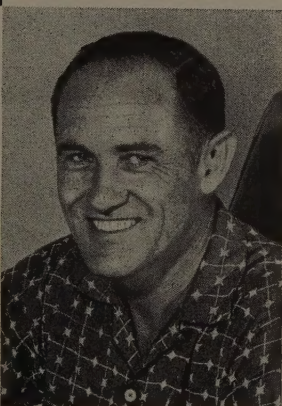
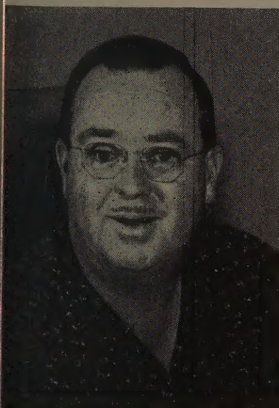
Specifications, dimensions, physical and structural qualities, and safe loading data of light steel residential framing members. Illustrations show how wall panels can be shop-assembled for erection at the site.

continued on p. 266



At Fairfax Village, Fort Lauderdale, Florida...

THEY EVEN SOLD ONE WEATHERMAKER HOME BY MAIL!



These are the men behind Fairfax. President E. J. Richardson (right) and Vice President Jesse Johnson (above) picked Carrier air conditioning for their 1400-home project because: they liked the Weathermaker Home name and what it stands for; they liked the quietness of the Weathermaker; they realized that Carrier knows air conditioning best.

What makes a development so successful that 27 homes are sold the first week? What was so outstanding about these Carrier air conditioned homes that an Army officer bought one by mail after seeing the brochure?

Let's take a look at Fairfax Village and find out.

The Fairfax Village Weathermaker Homes have: three large bedrooms, two baths; a whole complement of appliances including built-in radio; and Carrier Weathermaker* air conditioning. They sell for just \$13,784.

The Carrier dealer worked with the developer on the plans, proposed several modifications which cut the cost of the air conditioning, improved the house. For instance, a new location for the Weathermaker cut installation costs and provided an extra closet.

Two experienced Carrier promotion men moved in, sat down with Fairfax management, worked with a local advertising agency. An 8-page brochure was developed. A press party was held. A space campaign in local newspapers was begun. And advertising was directed to out-of-state prospects in Chicago, Cleveland, Washington and New York.

This is just a sample of the way Carrier and the Carrier Weathermaker Home idea can help you sell your houses.

The fact is that more new homes have Carrier Weathermakers than any other make of air conditioner. The Fairfax Village story is good evidence that there are many reasons why this is so. Why not mail the coupon for the full facts?

* Reg. U. S. Pat. Off.

Carrier

air conditioning • refrigeration • industrial heating

CARRIER CORPORATION, 313 S. Geddes Street, Syracuse, New York

Tell me how Carrier air conditioning and the Carrier Weathermaker Home idea can help me sell my houses.

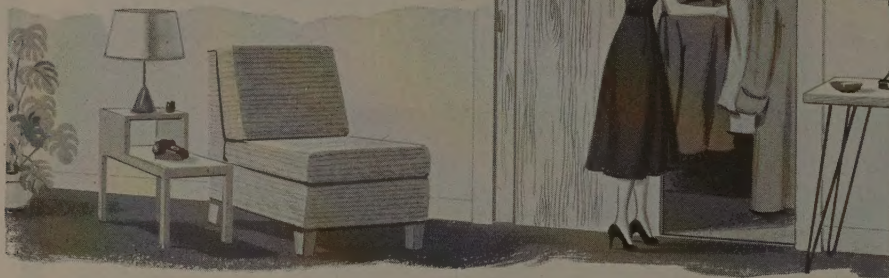
Name _____

Street _____

City _____

State _____

*extra closet space puts
more value in your homes*



"Hidden Comfort" of the Norman Southerner *gives more space for living*



*the original
compact
horizontal
forced-air
gas furnace*



COMPACT DESIGN of Norman Southerner gives "hidden comfort" in attic installation. Approved by AGA. Also functions perfectly in new homes designed for perimeter heating.



ONE-FLOOR PLAN of today's modern home has more closet space with Norman Southerner installed in a crawl space. Adaptable in field as either right or left-hand unit.



MAKES AN ATTRACTIVE BASEMENT with the Norman Southerner suspended out of the way. Leaves more valuable floor space for work or play in homes and apartments.

THAT CLOSET or utility room floor space you've been using for heating equipment is costing you money. Let the home owner use that valuable floor space while you install "hidden comfort" with the Norman Southerner... in the attic, basement, under the floor, stairs or crawl space using a minimum of duct work.

MOST COMPACT of all horizontal gas furnaces, the Norman Southerner lets you use more valuable floor space for closets and utility areas in the homes you build.

If you're building with an eye to cutting costs and saving space you'll find the Norman Southerner the most versatile forced-air gas furnace ever built. Time-tested and performance-proved in thousands of installations. Makes your homes worth more for the money, too... with all the latest improvements in design for greater heating efficiency. Sizes for all heating requirements. AGA approved for all gases.

Manufacturers of a Complete Line of Gas Heating and Air Conditioning Equipment.

Norman products company

1150 Chesapeake Ave., Columbus 12, Ohio



SEND FOR ILLUSTRATED LITERATURE complete with specifications of Norman Southerner for your files. Shows customers the big advantages of homes you build with the Norman Southerner.



TECHNICAL PUBLICATIONS *cont'd*

OUTDOOR FIREPLACES. Donley Outdoor Fireplaces; How to Build Them. Donley Bros. Co., Dept. HH, 13970 Miles Ave., Cleveland 5, Ohio. 32 pp. 8 1/2" x 11", 50¢

Builders agree that anything that contributes to outdoor living is a powerful sales force, and the back-yard fireplace seems to have an irresistible lure for the American male. Photographs, drawings and diagram make this booklet valuable as a construction guide. A fine good-will gift to a new house buyer.

LIGHTING. See Your Home in a Good Light. General Electric Co., Nela Park, Cleveland 12, Ohio. 32 pp. 5" x 7"

This revised recipe book for better lighting should have an even greater circulation than the six million copies the original booklet achieved, because builders, manufacturers and consumers all have a new awareness of the importance (and salability) of proper lighting. For builder or architect interested in getting more-than-adequate lighting, here are 32 pages of check points. The second edition has been completely revised and expanded both pictorially and editorially.

GLASS DOORWALLS. Steel Frames for Sliding Glass Doorwalls and Matching Windows. Steelbilt, Inc., Dept. HH, 18001 S. Figueroa, Gardena, Calif. 12 pp. 8 1/2" x 11"

Few products have taken the imagination of today's architects like the vista-opening glass wall. This catalogue and detail sheet describes the various combinations of door and window units, and attempts to remove some of the confusion of terms applied to sliding-glass walls by a suggested nomenclature. Eye appeal is added by some fine architectural photography of the units in many types of structures, including residential.

AIR CONDITIONING. Glazing the Air-Conditioned Home. Libbey-Owens-Ford Glass Co., Dept. HH, Toledo 3, Ohio. 8 pp. 8 1/2" x 11"

L-O-F's booklet is a fine example of a manufacturer presenting his product with an honest appraisal of the job it will do. Sample:

"Windows are by no means the only, or even the major, part of a house that must be well-planned for year-round air conditioning. Just how windows enter into all these considerations [insulation, orientation, solar radiation] is the subject of this book."

The uses and effectiveness of their double-glazed windows are graphically presented, as well as a section on the differing heat loads presented by different elevations, and all the various means used to control these loads. "Must" reading for the air-conditioned house-builder or designer.